

THE MOSSES OF ZHEJIANG PROVINCE, CHINA:  
AN ANNOTATED CHECKLIST

МХИ ПРОВИНЦИИ ЧЖЭЦЗЯН, КИТАЙ: АННОТИРОВАННЫЙ ЧЕК-ЛИСТ

LIU YAN, CAO TONG & GUO SHUI-LIANG

ЛЮ ЯН, ЧАО ТОНГ & ГУО ШУЙ-ЛИАНГ

Abstract

Zhejiang Province lies in the eastern coast of China with the most diverse moss flora in East China. Based on the literature available to the authors, this catalogue of the moss flora of Zhejiang Province documented 1039 taxa of Musci. Of these, 694 species, 8 subspecies and 27 varieties belonging to 222 genera and 45 families are accepted as valid taxa.

Резюме

Провинция Чжэцзян расположена на восточном побережье Китая и имеет наиболее богатую флору мхов в Восточном Китае. По данным литературным данным составлен каталог мхов провинции, в котором приводятся 1039 таксона. Из них признаются 694 видов, 8 подвидов, 27 разновидностей, относящихся к 222 родам и 45 семействам.

INTRODUCTION

Zhejiang Province, covering a land area of 101800 km<sup>2</sup>, is situated roughly between 27° 12'–31° 31' N and 118° 00'–123° 00' E in the eastern coast of China. It is bordered by Chinese provinces of Fujian in the south, Jiangxi and Anhui in the west, Shanghai and Jiangsu in the north and the East China Sea to the east. Most of the province is covered by hills and mountains, accounting up to 70.4%, whereas plains and basins are only 23.2%. There are four national nature reserves (Baishanzu-Fengyangshan, Nan-li Islands, Tian-mu-shan, Wu-yan-ling Nature Reserves) within the province. Huangmaojian (1921m), the highest peak, is located in Baishanzu-Fengyangshan Nature Reserve. The prevailing climate belongs to the subtropical monsoon type and is characterized by an annual mean temperature of 15°–18°C and annual precipitation of 1000–2200 mm. The vegetation of the province is of evergreen broadleaved forests.

In spite of its small land area, Zhejiang has relatively a great diversity of moss flora compared to its adjacent provinces (Table 1). According to Redfearn & al. (1996), 580 moss species were enumerated for the province. Guo & Cao (2003)

reported 700 moss species belonging to 214 genera and 52 families for Zhejiang province, but did not present a checklist.

Since Piippo (1990) and Redfearn & al. (1996) compiled the first comprehensive lists of Chinese Hepaticae & Anthocerotae and Musci respectively, there appeared several local provincial lists of bryophytes of China (Rao & al., 1997; Fang & al., 1998; Peng & al., 2000; Wu & al., 2002). The hepatic checklist of Zhejiang was recently prepared by Zhu & al. (1998). However, an updated list of mosses in the same province is still missing. The aim of the present paper is to fill in the gap of information about the bryoflora of Zhejiang and to provide the baseline information for future bryological and ecological study in the province.

HISTORICAL EXPLORATION OF MOSS FLORA IN  
ZHEJIANG

Mosses of Zhejiang have been collected extensively by both domestic and foreign bryologists. The first bryological report from Zhejiang can be traced back to Wilson, who published 6 moss species (Wilson, 1848). Mitten (1856, 1859) reported *Mnium trichomanes* Mitt. and *Desmatodon laure-ri* (Schultz) B.S.G. ( $\equiv$  *Tortula laureri*) respectively from the province. Later, he described *Anacampt-*

<sup>1</sup> – College of Life and Environmental Sciences, Shanghai Normal University, Shanghai, 200234, China

<sup>2</sup> – Corresponding author, E-mail: CT1946@263.net.

Table1. Comparing moss diversity of Zhejiang with its adjacent provinces

Province	Number of moss species	Latitude	Land area (km <sup>2</sup> )	Literature
Anhui	457	29°25'-34°39'	139, 600	Redfearn & al. 1996
Fujian	292	23°30'-28°19'	121, 400	Redfearn & al. 1996
Hubei	219	29°05'-33°20'	186, 000	Peng & al. 2000
Hunan	206	24°38'-30°08'	211, 800	Rao & al. 1997
Jiangsu	235	30°45'-35°20'	102, 600	Redfearn & al. 1996
Jiangxi	192	24°29'-30°05'	166, 900	Fang & al. 1998
Zhejiang	<b>694</b>	27°12'-31°31'	101, 800	Present

*odon fortunei* Mitt. as a new species based on materials from Zhejiang (Mitten, 1864). In the early 20th century, Salmon (1900) published 14 moss species, mainly collected from Mt. Tian-tai, Zhejiang, with a new species *Plagiothecium subpinnatum* Salm. (= *Isopterygium subpinnatum*). Reimers (1931) recorded 15 moss species from Zhejiang, of which 9 remain accepted today, while the rest were reduced to synonyms or transferred to other genera. Dixon (1933) also enumerated 4 mosses, including a new species, *Acanthocladium juliforme* Herz. & Dix. (= *Wijkia juliformis* (Herz. & Dix. in Dix.) Crum ). Potier de la Varde (1937) reported 19 moss species, of which 11 remains accepted today. Other major contributions during this period include Salmon (1902), Levier (1906), Tchen (1936), Kabiersch (1937) etc.

The moss flora of Zhejiang was not studied by Chinese bryologists until 1941, when Professor P.-C. Chen (1941) reported 3 species of Pottiaceae from Zhejiang. Hu & Wang (1981) recorded 240 moss species in 110 genera and 39 families from Mt. West Tian-mu. Based on field expeditions to Mt. Pu-tuo, Li & Gao (1983) identified 97 moss species and varieties in 64 genera and 28 families. Hong & Hu (1984) reported 307 species belonging to 135 genera and 40 families from Mt. Jiulong. Among them, there were one new species, 3 new varieties and 19 new records to China. According to Hu & Wang (1987), Zhejiang, with 337 species, was the richest province in moss diversity in east China. In recent years, Zhu (1990, 1993) recognized 358 species of bryophytes from Wu-yan-ling Nature Reserve and 29 species of mosses from Baishanzu Nature Reserve, respectively. Zhang & Zhu (1997) further reported 299 species of bryophytes from Fengyangshan Nature Reserve and added 18 new records to the moss flora of east China. In fact, only 11 of these were truly new records after we rechecked them with

Redfearn & al. (1996). Tian (1997) enumerated 236 moss species in 103 genera and 33 families from Mt. Gu-tian. Guo & Cao (2001) identified 120 species from Mt. Jinhua belonging to 61 genera and 24 families. Again, Zhu (2003) listed 131 species of mosses in 80 genera and 32 families from Fengyangshan Nature Reserve. Moreover, the Moss Flora of China (both Chinese and English version) documented some additional records of moss species from Zhejiang (Gao, 1994, 1996; Gao & Crosby, 1999; Li, 2000; Li & Crosby, 2001; Wu, 2002; Wu & Crosby, 2002; Gao & Crosby, 2003; Wu & Jia, 2004; Hu & Wang, 2005). Besides the literature cited above, we found a list of bryophytes of Baishanzu Nature Reserve on the website of Nature Reserve of China. It comprises 11 new records of moss species, which were not included in the present list (Annotation 1).

#### A CHECKLIST OF MOSSES IN ZHEJIANG

The present checklist contains 1039 specific, subspecific and variety names. We have accepted 729 taxa (including 694 species, 8 subspecies and 27 varieties) as valid taxa and they are assigned to 222 genera and 45 families. Even so, we believe that some accepted taxa still need to be confirmed and revised in future. For ease of use, all names of genera and species of mosses described or reported from Zhejiang Province are arranged alphabetically based on the literature available to the authors from the first publication of bryophytes in Zhejiang by Wilson in 1848 to April of 2005. Nomenclature and systematical arrangement mostly follow Redfearn & al. (1996) and Moss Flora of China (both Chinese version and English version). Furthermore, we accept some alternative treatments, in some cases, according to new literature. The accepted names are printed in boldface, followed by synonyms in brackets [ ] and the literature citation concerned. In case of synonymy, the

distributional records of a synonym are repeated under the accepted name. The double equal sign (=) indicates heterotypic or taxonomic synonyms, while the triple equal sign ( $\equiv$ ) means homotypic or nomenclatural synonyms. Some explanations of the distribution, nomenclature, and taxonomic problems are given in {} in numbered annotations provided at the end of the list. A synopsis of classification of the mosses of Zhejiang Province, with the placement of families and genera, and the number of species, is presented as Appendix 1.

*Abietinella* C. Müll. (Thuidiaceae).

— *arbuscula* Mitt. (Zhang & Zhu, 1997) {2}.

*Acanthocladium* Mitt., *hom. illeg.* (Sematophyllaceae).

— *juliforme* Herz. & Dix.  $\equiv$  *Wijkia juliformis* (Dixon, 1933; Chen & al., 1978; Redfearn & al., 1996).

*Acroporium* Mitt. (Sematophyllaceae).

— *lamprophyllum* Mitt. [*A. oxyporum*] (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).

— *oxyporum* (Bosch & Lac.) Fleisch. = *A. lamprophyllum* fide Tan, 1994 (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996).

— *stramineum* (Reinw. & Hornsch.) Fleisch. var. *turgidum* (Mitt.) Tan [*A. turgidum*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).

— *turgidum* Mitt.  $\equiv$  *A. stramineum* var. *turgidum* (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).

*Actinothuidium* (Besch.) Broth. (Thuidiaceae).

— *hookeri* (Mitt.) Broth. (Hu & Wang, 1987; Redfearn & al., 1996).

*Aerobryidium* Fleisch. in Broth. (Meteoriaceae).

— *aureo-nitens* (Schwaegr.) Broth. [*Papillaria atrata*] (Salmon, 1900; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).

— *filamentosum* (Hook.) Fleisch. in Broth. [*A. taiwanense*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).

— *taiwanense* Nog. = *A. filamentosum* fide Noguchi, 1976 (Hong & Hu, 1984; Zhu, 2003).

— *wallichii* (Brid.) Fleisch. [*Aerobryopsis lanosa*, *A. wallichii*] (Potier de la Varde, 1937; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).

*Aerobryopsis* Fleisch. (Meteoriaceae).

— *cochlearifolia* Dix (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).

— *lanosa* (Mitt.) Broth. = *Aerobryidium wallichii* fide Noguchi, 1976 (Potier de la Varde, 1937; Redfearn & al., 1996).

— *parisii* (Card.) Broth. (Tian, 1997).

— *subdivergens* (Broth.) Broth. (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).

— *subdivergens* (Broth.) Broth. ssp. *scariosa* (Bartr.) Nog. (Hong & Hu, 1984; Redfearn & al., 1996).

— *wallichii* (Brid.) Fleisch.  $\equiv$  *Aerobryidium wallichii* (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).

*Aerobryum* Dozy & Molck. (Meteoriaceae).

— *speciosum* Dozy & Molck. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Zhu, 2003).

*Amblystegium* Bruch & Schimp. in B.S.G. (Amblystegiaceae).

— *riparium* (Hedw.) Schimp. in B.S.G.  $\equiv$  *Leptodictyum riparium* (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).

— *serpens* (Hedw.) B.S.G. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003).

— *tenax* (Hedw.). Jens.  $\equiv$  *Hygroamblystegium tenax* (Tian, 1997).

*Amphidium* Schimp., *nom. cons.* (Orthotrichaceae).

— *lapponicum* (Hedw.) Schimp. (Tian, 1997).

*Anacamptodon* Brid. (Fabroniaceae).

— *fortunei* Mitt. (Mitten, 1864; Redfearn & al., 1996).

— *latidens* (Besch.) Broth. (Guo & Cao, 2001).

*Andreaea* Hedw. (Andreaeaceae).

— *mamillosula* Chen & Wan = *A. rupestris* ssp. *fauriei* fide Cao & Gao, 1995 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).

— *rupestris* Hedw. (Cao & Gao, 1995; Zhang & Zhu, 1997; Gao & Crosby, 1999).

— *rupestris* Hedw. ssp. *fauriei* (Besch.) W. Schultze-Motel [*A. mamillosula*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Cao & Gao, 1995; Redfearn & al., 1996; Gao & Crosby, 1999).

*Anoetangium* Schwaegr. *nom. cons.* (Pottiaceae).

— *aestivum* (Hedw.) Mitt. [*A. euchloron*] (Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001).

— *crispulum* Wils., *nom. nud.* = *A. thomsonii* fide Chen, 1941 (Hu & Wang, 1981; Hong & Hu, 1984; Redfearn & al., 1996).

— *euchloron* (Schwaegr.) Mitt. = *A. aestivum* fide Zander, 1977 (Zhang & Lai, 1993; Gao, 1996).

— *stracheyanum* Mitt. [*A. tortifolium*] (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001; Guo, 2003).

— *thomsonii* Mitt. [*A. crispulum*] (Hu & Wang, 1981,

- Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Guo & Cao, 2001; Li & Crosby, 2001; Guo, 2003).
- *tortifolium* Jaeg., *nom. illeg.* = *A. stracheyanum* fide Chen, 1941 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- Anomobryum** Schimp. (Bryaceae).
- **filiforme** (Dicks.) Solms in Rabenh. (Guo & Cao, 2001).
- **filiforme** (Dicks.) Solms ssp. **concinatum** (Spruce) Loeske [*Bryum filiforme* var. *concinatum*] (Tian, 1997).
- Anomodon** Hook. & Tayl. (Anomodontaceae).
- **abbreviatus** Mitt. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
- **giraldui** C. Müll. (Reimers, 1931; Potier de la Varde, 1937; Iwatsuki, 1963; Hu & Wang, 1981; Li & Gao, 1983; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Wu & Crosby, 2002; Guo, 2003).
- **minor** (Hedw.) Lindb. [*A. minor* ssp. *integerrimus*] (Reimers, 1931; Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Wu & Crosby, 2002; Guo, 2003).
- **minor** (Hedw.) Lindb. ssp. *integerrimus* (Mitt.) Iwats. = *A. minor* fide Granzow-de la Cerda, 1997 (Zhang & Lai, 1993).
- **rugelii** (C. Müll.) Keissl. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Buck, 1993; Redfearn & al., 1996; Wu & Crosby, 2002; Guo, 2003).
- **thraustus** C. Müll. (Guo & Cao, 2001; Wu & Crosby, 2002).
- **viticulosus** (Hedw.) Hook. & Tayl. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- Aongstroemiopsis** Fleisch. (Dicranaceae).
- **julacea** (Dozy & Molke.) Fleisch. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- Archidium** Brid. (Archidiaceae).
- *japonicum* Broth. & Okam. = *A. ohioense* fide Snider, 1975 (Li & Gao, 1983; Redfearn & al., 1996).
- **ohioense** Schimp. ex C. Müll. [*A. japonicum*] (Li & Gao, 1983; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- Atractylocarpus** Mitt., *nom. cons.* (Dicranaceae).
- **alpinus** (Schimp. ex Mild.) Lindb. (Tian, 1997).
- Atrichum** P. Beauv., *nom. cons.* (Polytrichaceae).
- **angustatum** (Brid.) B. S. G. (Hong & Hu, 1984; Redfearn & al., 1996).
- **crispulum** Schimp. ex Besch. [*A. henryi*, *A. spinulosum*] (Chen & al., 1978; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Lou & Koponen, 1986; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Gao & Lai, 2003; Guo, 2003; Zhu, 2003; Wu & Jia, 2004).
- **crispum** (Jam.) Sull. & Lesq. (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
- **henryi** (Salm.) Bartr. = *A. crispulum* fide Lou & Koponen, 1986 (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Liu & al., 1989; Wang & Tao, 1992; Redfearn & al., 1996; Zhu, 2003).
- **rhystophyllum** (C. Müll.) Par. (Lou & Koponen, 1986; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996).
- *spinulosum* (Card.) Mizut. = *A. crispulum* fide Nyholm, 1971 (Chen & al., 1978; Redfearn & al., 1996).
- *undulatum* auct. non (Hedw.) P. Beauv. = *A. undulatum* var. *gracilisetum* fide Lou & Koponen, 1986 (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Wang & Fang, 2002; Zhu, 2003).
- **undulatum** (Hedw.) P. Beauv. var. **gracilisetum** Besch. [*A. undulatum* auct. non (Hedw.) P. Beauv.] (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Wang & Fang, 2002; Guo, 2003; Zhu, 2003).
- Aulacopilum** Wils. (Erpodiaceae).
- **japonicum** Broth. ex Card. (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- Barbella** Fleisch. in Broth. (Meteciaceae).
- *asperifolia* Card. = *B. flagellifera* fide Noguchi, 1976 (Zhu, 2003).
- **chrysonema** (C. Müll.) Nog. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- *enervis* (Thwaites & Mitt.) Fleisch. ex Broth. = *Di-cladiella trichophora* fide Redfearn & Tan, 1995 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **flagellifera** (Card.) Nog. [*B. asperifolia*] (Hong & Hu, 1984; Hu & Wang, 1987; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
- **macroblasta** Broth. (Hong & Hu, 1984; Redfearn & al., 1996).
- **niitakayamensis** var. **propagulifera** (Nog.) S. -H. Lin (Zhang & Lai, 1993; Tian, 1997).
- *pendula* (Sull.) Fleisch. = *Neodycladiella pendula* (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997).
- *tectorum* C. Müll., *nom. nud.* (Hu & Wang, 1987; Redfearn & al., 1996).
- *trichophora* (Mont.) Fleisch. = *Di-cladiella trichophora* (Tian, 1997).

**Barbula** Hedw., *nom. cons.* (Pottiaceae).

- **arcuata** Griff. [*Hydrogonium arcuatum*] (Gao, 1996; Li & Crosby, 2001; Gao & Lai, 2003).
- **constricta** Mitt. = *Didymodon constrictus* = **D. vinealis** fide Sollman, 1983 (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996).
- **ditrichoides** Broth. = *Didymodon rigidulus* var. **ditrichoides** (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Gao & Lai, 2003).
- **elongata** Williams. (Hu & Wang, 1981; Redfearn & al., 1996) {3}.
- **inaequalifolia** Tayl. [*B. tenii*] = *Bryoerythrophyllum inaequalifolium* (Zhang & Lai, 1993; Gao, 1996; Gao & Lai, 2003).
- **indica** (Hook.) Spreng. in Steud. (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- **nigrescens** Mitt. = *Didymodon nigrescens* (Zhang & Lai, 1993; Gao, 1996; Gao & Lai, 2003).
- **reflexa** (Brid.) Brid. = *Didymodon rigidicaulis* fide Saito, 1975 = **D. ferrugineus** fide Hill, 1981 (Hu & Wang, 1981; Wang & Tao, 1992; Gao, 1996; Redfearn & al., 1996).
- **rufidula** C. Müll. = *Didymodon rufidulus* (Hu & Wang, 1981; Wang & Tao, 1992; Gao, 1996; Redfearn & al., 1996).
- **sordida** Besch. [*Hydrogonium sordidum*] (Gao, 1996; Li & Crosby, 2001; Gao & Lai, 2003).
- **subcontorta** Broth. = *Didymodon vinealis* fide Sollman, 1983 (Zhang & Lai, 1993; Gao, 1996; Gao & Lai, 2003).
- **tectorum** C. Müll. = *Didymodon tectorus* (Hong & Hu, 1984; Gao, 1996; Gao & Lai, 2003).
- **tenii** Herz. = *B. inaequalifolia* fide Zander, 1968 = *Bryoerythrophyllum inaequalifolium* (Zhang & Lai, 1993; Gao, 1996; Gao & Lai, 2003).
- **unguiculata** Hedw. (Chen, 1941; Li & Gao, 1983; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Guo & Cao, 2001; Li & Crosby, 2001).
- **vinealis** Brid. = *Didymodon vinealis* (Hong & Hu, 1984; Gao, 1996).

**Bartramia** Hedw., *nom. cons.* (Bartramiaceae).

- **halleriana** Hedw. (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Wang & Fang, 2002).
- **pomiformis** Hedw. [*B. pomiformis* var. **crispa**, *B. pomiformis* var. **elongata**] (Salmon, 1900; Hu & Wang, 1981, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Zhu, 2003).
- **pomiformis** Hedw. var. **crispa** (Brid.) B.S.G. = **B. pomiformis** (Salmon, 1900; Redfearn & al., 1996).
- **pomiformis** Hedw. var. **elongata** Turner = **B. pomiformis** (Tian, 1997).

**Brachymenium** Schwaegr. (Bryaceae).

- **nepalense** Hook. in Schwaegr. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Zhu, 2003).
  - **ptychothecium** (Besch.) Ochi (Zhang & Lai, 1993; Tian, 1997).
  - **pulchrum** Hook. (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
  - **radiculosum** (Schwaegr.) Hampe (Hu & Wang, 1981; Redfearn & al., 1996) {4}.
- Brachythecium** Bruch & Schimp. in B. S. G. (Brachytheciaceae).
- **albicans** (Hedw.) B. S. G. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
  - **auriculatum** Jaeg. = *Camptothecium auriculatum* (Tchen, 1936; Redfearn & al., 1996; Tian, 1997; Guo, 2003).
  - **brotheri** Par. (Qian, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003).
  - **buchananii** (Hook.) Jaeg. (Hu & Wang, 1981, 1987; Qian, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
  - **campestre** (C. Müll.) B.S. G. (Tian, 1997).
  - **camptothecioides** Tak. (Zhang & Lai, 1993; Guo, 2003).
  - **campylothallum** C. Müll. (Hu & Wang, 2005).
  - **formosanum** Takaki (Hu & Wang, 2005).
  - **garovaglioides** C. Müll. [*B. wichuriae*] (Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Hu & Wang, 2005).
  - **glareosum** (Spruce) B. S. G. (Guo & Cao, 2001).
  - **glauculum** C. Müll. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **helminthocladum** Broth. & Par. (Tian, 1997; Hu & Wang, 2005).
  - **kuroishicum** Besch. (Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **moriense** Besch. (Qian, 1987; Redfearn & al., 1996; Guo & Cao, 2001).
  - **otaruese** Card. (Hong & Hu, 1984; Redfearn & al., 1996).
  - **pendulum** Takaki (Tian, 1997; Hu & Wang, 2005).
  - **piligerum** Card. (Hu & Wang, 1981; Qian, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003; Hu & Wang, 2005).
  - **plumosum** (Hedw.) B. S. G. [*B. pygmaeum*] (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Liu & al., 1989; Wang

- & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003; Hu & Wang, 2005).
- **plumosum** (Hedw.) B. S. G. var. **concaivifolium** (Sak.) Tak. (Qian, 1987; Redfearn & al., 1996).
- **plumosum** (Hedw.) B. S. G. var. **mimmayae** Card. (Qian, 1987; Redfearn & al., 1996).
- **populeum** (Hedw.) B. S. G. [*B. populeum* var. *yamamotoi*] (Hu & Wang, 1981; Li & Gao, 1983; Hu & Wang, 1987; Qian, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Zhang & Zhu, 1997; Guo & Cao, 2001; Hu & Wang, 2005).
- **populeum** (Hedw.) B. S. G. var. **japonicum** Dix. & Thér. (Qian, 1987; Redfearn & al., 1996; Guo, 2003).
- *populeum* (Hedw.) B. S. G. var. *yamamotoi* Tak. = **B. populeum** fide Mizushima, 1984 (Qian, 1987; Redfearn & al., 1996).
- **procumbens** (Mitt.) Jaeg. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **pulchellum** Broth. & Par. [*B. rhynchostegielloides*] (Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- *pygmaeum* Takaki = **B. plumosum** (Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
- **reflexum** (Stark.) Schimp. in B. S. G. (Hu & Wang, 1981; Li & Gao, 1983; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Hu & Wang, 2005).
- *rhynchostegielloides* Card. = **B. pulchellum** (Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- **rivulare** Schimp. in B. S. G. (Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003; Hu & Wang, 2005).
- **rotaeanum** De Not. (Hu & Wang, 2005).
- **rutabulum** (Hedw.) B. S. G. (Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Hu & Wang, 2005).
- *sandwicansis* Evans, *nom. nud.* (Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- **starkei** (Brid.) Schimp. in B. S. G. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **uncinifolium** Broth. & Par. (Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003; Hu & Wang, 2005).
- **velutinum** (Hedw.) B. S. G. (Qian, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Hu & Wang, 2005).
- *wichurae* (Broth.) Par. = **B. garovaglioides** fide Ignatov & Koponen, 1996 (Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- Breidleria** Loeske (Hypnaceae).
- **erectiuscula** (Sull. & Lesq.) Hedden [ *Hypnum erectiusculum* ] (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996; Guo & Cao, 2001).
- **pratensis** (Hartm.) Loeske (Guo & Cao, 2001).
- Breutelia** (Bruch & Schimp. in B.S.G.) Schimp. (Bartramiaceae).
- **arundinifolia** (Duby) Fleisch. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Brothera** C. Müll. (Dicranaceae).
- **leana** (Sull.) C. Müll. (Hong & Hu, 1984; Hu & Wang, 1987; Buck, 1993; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Gao & Crosby, 1999).
- Brotherella** Loeske ex Fleisch. (Sematophyllaceae).
- **erythrocaulis** (Mitt.) Fleisch. [*Pylaisiadelpha erythrocaulis*] (Zhu, 1990; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Wu & Jia, 2004).
- **falcata** (Dozy & Molk.) Fleisch. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **falcatula** Broth. [*Pylaisiadelpha falcatula*] (Hong & Hu, 1984; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- **fauriei** (Card.) Broth. (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003; Wu & Jia, 2004).
- **henonii** (Duby) Fleisch. [*B. isopterygioides*] (Hu & Wang, 1981; Hong & Hu, 1984; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Wu & Jia, 2004).
- **integrifolia** Broth. [*Pylaisiadelpha integrifolia*] (Tian, 1997).
- *isopterygioides* Sak. = **B. henonii** fide Ando & al., 1989 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- **nictans** (Mitt.) Broth. (Wu & Jia, 2004).
- *tenuirostris* (Schimp.) Broth. = **Pylaisiadelpha tenuirostris** (Hu & Wang, 1981; Redfearn & al., 1996).
- *yokohamae* (Broth.) Broth. = **Pylaisiadelpha yokohamae** (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Bruchia** Schwaegr. (Dicranaceae).
- **sinensis** P.-C. Chen ex T. Cao & C. Gao (Tian, 1997).
- Bryhnia** Kaur. (Brachytheciaceae).
- **brachycladula** Card. (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- **hultenii** Bartr. in Grout (Hu & Wang, 1981; Redfearn & al., 1996).
- **novae-angliae** (Sull. & Lesq.) Grout [*B. sublaevifolia*] (Li & Gao, 1983; Hu & Wang, 1987; Qian,

- 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003; Zhu, 2003).
- *sublaevifolia* Broth. & Par. in Card. = ***B. novae-angliae*** fide Noguchi, 1991 (Hu & Wang, 1987; Qian, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- Bryoerythrophyllum** Chen (Pottiaceae).
- ***inaequalifolium*** (Tayl.) Zand. [*Barbula inaequalifolia*, *B. tenii*] (Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001; Gao & Lai, 2003).
- ***recurvirostrum*** (Hedw.) P.-C. Chen. (Gao, 1996; Li & Crosby, 2001).
- Bryohaplocladium** R. Watan. & Z. Iwats. (Thuidiaceae).
- ***angustifolium*** (Hampe & C. Müll.) Watanabe & Iwats. = ***Haplocladium angustifolium*** (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- ***microphyllum*** (Hedw.) Watanabe & Iwats. = ***Haplocladium microphyllum*** (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- Bryonoguchia** Iwats. & Inoue (Thuidiaceae).
- ***molkenboeri*** (Sande Lac.) Iwats. & Inoue (Tian, 1997).
- Bryum** Hedw. (Bryaceae).
- ***alpinum*** Huds. ex With. (Hong & Hu, 1984) {5}.
- ***argenteum*** Hedw. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Guo & Cao, 2001; Guo, 2003; Zhu, 2003).
- ***atrovirens*** Vill. ex Brid. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- ***billardieri*** Schwaegr. [*B. leptothecium*, *B. truncorum*] = ***Rosulabryum billardieri*** fide Spence, 1996 (Wilson, 1848; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhang & Zhu, 1997).
- ***blandum*** Hook. & Wilson ssp. ***handelii*** (Broth.) Ochi [*B. setschuanicum*] (Tian, 1997).
- ***caespiticium*** Hedw. (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Zhu, 2003).
- ***calophyllum*** R. Brown (Tian, 1997).
- ***capillare*** Hedw. = ***Rosulabryum capillare*** fide Spence, 1996 (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003).
- ***cellulare*** Hook. in Schwaegr. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- ***cirrhatum*** Hoppe & Hornsch. = ***B. lonchocaulon*** fide Ochi, 1985 (Hu & Wang, 1981; Zhang & Lai, 1993; Redfearn & al., 1996).
- ***clathratum*** Amann = ***B. lonchocaulon*** fide Ochi, 1985 (Hu & Wang, 1981; Hong & Hu, 1984; Redfearn & al., 1996).
- ***cyclophyllum*** (Schwaegr.) B.S.G. (Tian, 1997; Wang & Fang, 2002).
- ***filiforme*** Dicks. var. ***concinatum*** (Spruce) Boul. = ***Anomobryum filiforme*** var. ***concinatum*** (Tian, 1997).
- ***giganteum*** (Schwaegr.) Arn. = ***Rhodobryum giganteum*** (Salmon, 1900; Redfearn & al., 1996).
- ***knowltonii*** Barnes (Hong & Hu, 1984; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- ***leptothecium*** Tayl. = ***B. billardieri*** fide Ochi, 1985 = ***Rosulabryum billardieri*** fide Spence, 1996 (Hu & Wang, 1981; Redfearn & al., 1996).
- ***lonchocaulon*** C. Müll. [*B. cirrhatum*, *B. clathratum*] (Hu & Wang, 1981; Hong & Hu, 1984; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003).
- ***neodamense*** (Itzig.) in C.Müll. (Tian, 1997).
- ***pallescens*** Schleicher ex Schwaegr. (Hong & Hu, 1984; Hu & Wang, 1987; Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Zhu, 2003).
- ***pseudotriquetrum*** (Hedw.) Gaertn., Meyer & Schreb. (Hu & Wang, 1981; Hong & Hu, 1984; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- ***recurvulum*** Mitt. (Guo & Cao, 2001).
- ***setschuanicum*** Broth. = ***B. blandum*** ssp. ***handelii*** fide Ochi, 1985 (Tian, 1997).
- ***truncorum*** (Brid.) Brid. = ***B. billardieri*** fide Ochi, 1985 = ***Rosulabryum billardieri*** fide Spence, 1996 (Wilson, 1848; Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
- ***turbinatum*** (Hedw.) Turner (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- ***uliginosum*** (Brid.) Bruch & Schimp. (Zhang & Lai, 1993).
- Callicladium** Crum (Hypnaceae).
- ***haldanianum*** (Grev.) Crum (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
- Calliergon** (Sull.) Kindb. (Amblystegiaceae).
- ***cordifolium*** (Hedw.) Kindb. (Guo & Cao, 2001).
- Calliergonella** Loeske (Amblystegiaceae).
- ***lindbergii*** (Mitt.) Hedenäs [*Hypnum lindbergii*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- Calypothecium** Mitt. (Pterobryaceae).
- ***crispulum*** (Bosch & Sande Lac.) Broth. (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- ***cuspidatum*** (Okam.) Nog. = ***C. hookeri*** fide Noguchi, 1989 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- ***duplicatum*** (Schwaegr.) Broth. (Hong & Hu, 1984;

- Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **hookeri** (Mitt.) Broth. [*C. cuspidatum*] (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **wightii** (Mitt.) Fleisch. (Hu & Wang, 1987; Redfearn & al., 1996) {6}.
- Calypstrochaeta** Desv. (Hookeriaceae).
- **japonica** (Card. & Thřr.) Iwats. & Nog. [*Eriopus mollis*] (Zhang & Lai, 1993).
- **spinosa** (Nog.) Ninh [*Eriopus spinosus*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- Camptothecium** B.S.G. (Brachytheciaceae).
- **auriculatum** (Jaeg.) Broth. [*Brachythecium auriculatum*] (Tchen, 1936; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Hu & Wang, 2005).
- **lutescens** (Hedw.) B.S. G. (Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Hu & Wang, 2005).
- Campylium** (Sull.) Mitt. (Amblystegiaceae).
- **hispidulum** (Brid.) Mitt. (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Hu & Wang, 2005).
- **hispidulum** (Brid.) Mitt. var. **sommerfeltii** (Myr.) Lindb. (Hu & Wang, 1981; Redfearn & al., 1996) {6}.
- **polygamum** (B. S. G.) C. Jens. (Zhang & Lai, 1993).
- **polygamum** (B. S. G.) C. Jens. var. **stagnatum** (Wils.) Dix. (Dixon, 1933; Chen & al., 1978; Redfearn & al., 1996).
- **stellatum** (Hedw.) C. Jens. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Campyodontium** Schwaegr. (Entodontaceae).
- **flavescens** (Hook.) Bosch & Sande-Lac. ≡ **Mesonodon flavescens** (Hong & Hu, 1984; Redfearn & al., 1996).
- Campylopodium** (C. Müll.) Besch. (Dicranaceae).
- **medium** (Duby) Giese & Frahm (Zhang & Zhu, 1997).
- Campylopus** Brid. (Dicranaceae).
- **atrovirens** De Not. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Frahm, 1992a; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Tian, 1997; Gao & Crosby, 1999; Zhu, 2003).
- **comosus** (Reinw. & Hornsch.) Bosch & Sande Lac. (Frahm, 1992a).
- **corensis** Card. = **C. umbellatus** fide Frahm, 1984 (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- **ericoides** (Griff.) Jaeg. [*C. involutus*, *C. tenuinervis*] (Li & Gao, 1983; Redfearn & al., 1996; Tian, 1997).
- **flexosus** (Hedw.) Brid. (Hong & Hu, 1984; Hu & Wang, 1987; Frahm, 1992a; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999; Gao & Lai, 2003; Zhu, 2003).
- **fragilis** (Brid.) B. S. G. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **fragilis** (Brid.) B. S. G. ssp. **zollingeranus** (C. Müll.) J. -P. Frahm ≡ **C. zollingeranus** (Tian, 1997).
- **fragilis** (Brid.) B. S. G. var. **pyriformis** (Schultz) Agst. ≡ **C. pyriformis** (Gao, 1994).
- **gracilis** (Mitt.) Jaeg. [*C. schwarzii*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999; Guo, 2003).
- **handelii** Broth. = **C. schimperii** fide Frahm, 1982 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **hemitrichus** (C. Müll.) Jaeg. (Gao & al., 1993; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Tian, 1997; Gao & Crosby, 1999).
- **involutus** (C. Müll.) Jaeg. = **C. ericoides** fide Frahm, 1992a (Li & Gao, 1983; Redfearn & al., 1996).
- **japonicus** Broth. (Hu & Wang, 1981, 1987; Frahm, 1992a; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003).
- **latinervis** (Mitt.) Jaeg. = **C. subulatus** fide Frahm, 1992a (Zhu, 1990; Redfearn & al., 1996).
- **pyriformis** (Schultz.) Brid. [*C. fragilis* var. *pyriformis*] (Gao, 1994; Tian, 1997; Gao & Crosby, 1999).
- **richardii** auct. non Brid. = **C. umbellatus** fide Frahm, 1992b (Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- **schimperii** Milde [*C. handelii*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001).
- **schmidii** (C. Müll.) Jaeg. (Tian, 1997).
- **schwarzii** Schimp. = **C. gracilis** fide Frahm, 1994 (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **setifolius** Wils. (Li & Gao, 1983; Redfearn & al., 1996; Tian, 1997) {7}.
- **subulatus** Schimp. in Rabenh. [*C. latinervis*] (Zhu, 1990; Redfearn & al., 1996; Tian, 1997).
- **taiwanensis** Sak. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996; Gao & Crosby, 1999).
- **tenuinervis** Fleisch. = **C. ericoides** fide Frahm, 1992a (Li & Gao, 1983; Redfearn & al., 1996).
- **umbellatus** (Arnoth.) Par. [*C. corensis*, *C. richardii* auct. non Brid., *Thysanomitrium richardii* auct. non (Brid.) Schwaegr.] (Wilson, 1848; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhu, 1990; Frahm, 1992a; Zhang & Lai, 1993; Gao, 1994; Red-

- fearn & al., 1996; Tian, 1997; Gao & Lai, 2003; Zhu, 2003).
- **zollingeranus** (C. Müll.) Bosch & Sande Lac. [*C. fragilis* ssp. *zollingeranus*] (Tian, 1997).
- Ceratodon** Brid. (Ditrichaceae).
- **purpureus** (Hedw.) Brid. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- Chionostomum** C. Müll. (Sematophyllaceae).
- **rostratum** (Griff.) C. Müll. (Hong & Hu, 1984; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- Chrysocladium** Fleisch. (Meteoriaceae).
- **retorsum** (Mitt.) Fleisch. [*C. retorsum* var. *kiusiuense*] (Potier de la Varde, 1937; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
- *retorsum* (Mitt.) Fleisch. var. *kiusiuense* (Broth. & Par.) Card. = ***C. retorsum*** fide Noguchi, 1976 (Zhu, 2003).
- Cirriphyllum** Grout (Brachytheciaceae).
- **cirrhosum** (Schwaegr.) Grout (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Hu & Wang, 2005).
- **piliferum** (Hedw.) Grout (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Hu & Wang, 2005).
- Claopodium** (Lesq. & James) Ren. & Card. (Thuidiaceae).
- **aciculum** (Broth.) Broth. (Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Fang & Koponen, 2001; Guo & Cao, 2001; Wu & Crosby, 2002).
- **assurgens** (Sull. & Lesq.) Card. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Fang & Koponen, 2001).
- **crispifolium** (Hook.) Ren. & Card. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996) {8}.
- *nervosum* Fleisch = ***C. prionophyllum*** fide Watanabe, 1972 (Li & Gao, 1983; Redfearn & al., 1996).
- **pellucinerve** (Mitt.) Best [*C. subpiliferum*] (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).
- **prionophyllum** (C. Müll.) Broth. [*C. nervosum*] (Li & Gao, 1983; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Fang & Koponen, 2001).
- *subpiliferum* (Lindb. & Arn.) Broth. = ***C. pellucinerve*** fide Iwatsuki & Noguchi, 1973 (Hu & Wang, 1981; Redfearn & al., 1996).
- Clastobryum** Dozy & Molk. (Sematophyllaceae).
- *katoi* Broth. = ***Palisadula katoi*** (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- Climacium** Web. & Mohr (Climaciaceae).
- **dendroides** (Hedw.) Web. & Mohr (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **japonicum** Lindb. (Salmon, 1900; Chen & al., 1978; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Zhang & Zhu, 1997; Guo, 2003).
- Ctenidium** (Schimp.) Mitt. (Hypnaceae).
- **andoi** Nishimura (Zhu & al., 1993; Redfearn & al., 1996; Wu & Jia, 2004).
- **capillifolium** (Mitt.) Broth. (Hong & Hu, 1984; Hu & Wang, 1987; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003; Wu & Jia, 2004).
- **elegantulum** Broth. (Tian, 1997).
- **lychnites** (Mitt.) Broth. (Hong & Hu, 1984; Zhang & Lai, 1993; Redfearn & al., 1996; Wu & Jia, 2004).
- **molluscum** (Hedw.) Mitt. (Hong & Hu, 1984; Zhu, 1990; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
- **pinnatum** (Broth. & Par.) Broth. (Zhang & Zhu, 1997; Wu & Jia, 2004).
- **serratifolium** (Card.) Broth. (Zhu, 1990; Redfearn & al., 1996; Wu & Jia, 2004).
- Cyathophorella** (Broth.) Fleisch. (Hypopterygiaceae) {9}.
- **hookeriana** (Griff.) Fleisch. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Wu, 2002; Wu & Crosby, 2002; Zhu, 2003).
- *japonica* (Broth.) Broth. = ***C. tonkinensis*** fide Iwatsuki & Noguchi, 1973 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- **kyusyuensis** Horik. & Nog. (Wu, 2002; Wu & Crosby, 2002).
- **tonkinensis** (Broth. & Par.) Broth. [*C. japonica*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Redfearn & al., 1996).
- Cyrto-hypnum** Hampe & Lor. (Thuidiaceae).
- **contortulum** (Mitt.) P.-C. Wu, Crosby & S. He [*Thuidium contortulum*] (Guo & Cao, 2001) {10}.
- **minutulum** (Hedw.) Buck & Crum [*Thuidium minutulum*] (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003) {11}.
- **pygmaeum** (Schimp.) Buck & Crum (Zhang & Zhu, 1997).
- **tamariscellum** (C. Müll.) Buck & Crum [*Thuidium rubiginosum*, *T. tamariscellum* auct. non (C. Müll.) Bosch & Lac.] (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- **vestitissimum** (Besch.) Buck & Crum [*Thuidium lepidoziaeum*] (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).

- Dendrocyclophorum** Dix. (Hypopterygiaceae).  
 — **paradoxum** (Broth.) Dix. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).  
*Desmatodon* Brid. (Pottiaceae).  
 — **laureri** (Schultz) Bruch & Schimp. = *Tortula laure-ri* (Mitten, 1859; Hu & Wang, 1987; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001).
- Dicladiella** Buck (Metoriaceae).  
 — **trichophora** (Mont.) Redf. & Tan [*Barbella enervis*, *B. trichophora*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- Dicranella** (C. Müll.) Schimp. (Dicranaceae).  
 — **cerviculata** (Hedw.) Schimp. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999; Gao & Lai, 2003).  
 — **coarctata** (C. Müll.) Bosch & Sande Lac. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Gao & Crosby, 1999; Guo, 2003).  
 — **divariculata** Besch. (Gao & Crosby, 1999).  
 — **heteromalla** (Hedw.) Schimp. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999; Guo, 2003).  
 — **microdivaricata** (C. Müll.) Par. (Zhang & Lai, 1993; Gao, 1994; Gao & Crosby, 1999).  
 — **subulata** (Hedw.) Schimp. (Zhang & Lai, 1993; Gao, 1994; Gao & Crosby, 1999).  
 — **varia** (Hedw.) Schimp. (Zhang & Lai, 1993; Gao, 1994; Gao & Crosby, 1999).
- Dicranodontium** Bruch & Schimp. in B. S. G. (Dicranaceae).  
 — **attenuatum** (Mitt.) Wils. ex Jaeg. = *D. didymodon* fide Frahm, 1997 (Zhang & Lai, 1993; Gao, 1994; Tian, 1997).  
 — **blindioides** (Besch.) Broth. = *D. uncinatum* fide Frahm, 1997 (Zhang & Lai, 1993).  
 — **caespitosum** (Mitt.) Par. = *D. didymodon* fide Frahm, 1997 (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).  
 — **denudatum** (Brid.) Britt. ex Williams (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999; Guo, 2003; Zhu, 2003).  
 — **didymodon** (Griff.) Par. [*D. attenuatum*, *D. caespitosum*] (Zhu, 1990; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Tian, 1997).  
 — **filifolium** Broth. (Tian, 1997).  
 — **fleischerianum** Schultz-Motel = *D. uncinatum* fide Frahm, 1997 (Zhang & Lai, 1993; Tian, 1997; Guo, 2003).  
 — **uncinatum** (Harv.) Jaeg. [*D. blindioides*, *D. fleischerianum*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Gao & Crosby, 1999; Gao & Lai, 2003; Guo, 2003; Zhu, 2003).
- Dicranoloma** (Ren.) Ren. (Dicranaceae).  
 — **assimile** (Hampe.) Par. (Zhang & Lai, 1993; Gao, 1994; Gao & Crosby, 1999).  
 — **cyllindrothecium** (Mitt.) Sak. [*D. subcyllindrothecium*] (Zhang & Lai, 1993; Gao, 1994; Gao & Lai, 2003).  
 — **dicarpum** (Nees) Par. (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).  
 — **fragile** Broth. (Gao & al., 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Gao & Crosby, 1999; Gao & Lai, 2003).  
 — **subcyllindrothecium** Broth. = *D. cyllindrothecium* fide Noguchi, 1987 (Zhang & Lai, 1993).
- Dicranoweisia** Lindb. ex Milde (Dicranaceae).  
 — **crispula** (Hedw.) Lindb. ex Milde (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Gao & Crosby, 1999).
- Dicranum** Hedw. (Dicranaceae).  
 — **assamicum** Dix. (Tian, 1997; Zhang & Zhu, 1997).  
 — **crispifolium** C. Müll. (Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).  
 — **crispula** (Hedw.) Lindb. (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996) {3}.  
 — **drummondii** C. Müll. [*D. thelinotum*] (Tian, 1997).  
 — **fragilifolium** Lindb. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).  
 — **fuscescens** Turn. (Hu & Wang, 1981; Hong & Hu, 1984; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).  
 — **groenlandicum** Brid. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).  
 — **gymnostomum** Mitt. = *Pseudochorisodontium gymnostomum* (Zhang & Lai, 1993; Tian, 1997).  
 — **hamulosum** Mitt. (Zhang & Lai, 1993; Gao, 1994; Gao & Crosby, 1999).  
 — **hokinense** (Besch.) C. Gao & T. Cao = *Pseudochorisodontium hokinense* (Tian, 1997).  
 — **japonicum** Mitt. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999; Zhu, 2003).  
 — **kashmirensense** Broth. (Potier de la Varde, 1937; Zhang & Lai, 1993; Redfearn & al., 1996).  
 — **lorifolium** Mitt. (Salmon, 1900; Chen & al., 1963; Zhang & Lai, 1993; Redfearn & al., 1996).  
 — **majus** Turn. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003).

- **muehlenbeckii** B.S.G. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999; Guo, 2003).
  - **nipponense** Besch. (Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **scoparium** Hedw. (Levier, 1906; Reimers, 1931; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Zhu & al., 1993; Gao, 1994; Redfearn & al., 1996; Tian, 1997; Gao & Crosby, 1999; Wang & Fang, 2002; Guo, 2003; Zhu, 2003).
  - *subcylindrothecium* Broth. (Zhang & Lai, 1993) (3).
  - *thelinotum* C. Müll. = **D. drummondii** fide Gao & Crosby, 1999 (Tian, 1997).
- Didymodon** Hedw. (Pottiaceae).
- *constrictus* (Mitt.) Saito [*Barbula constricta*] = **D. vinealis** fide Sollman, 1983 (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **fallax** (Hedw.) Zand. (Tian, 1997).
  - **ferrugineus** (Schimp. ex Besch.) Hill [*Barbula reflexa*, *D. rigidicaulis*] (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001; Guo, 2003).
  - **japonicus** (Broth.) Saito [*Molendoa japonica*] (Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001).
  - **nigrescens** (Mitt.) Saito [*Barbula nigrescens*] (Zhang & Lai, 1993; Gao, 1996; Guo & Cao, 2001; Li & Crosby, 2001; Gao & Lai, 2003).
  - *rigidicaulis* (C. Müll.) Saito [*Barbula reflexa*] = **D. ferrugineus** fide Hill, 1981 (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Guo, 2003).
  - **rigidulus** Hedw. (Guo & Cao, 2001).
  - **rigidulus** Hedw. var. **ditrichoides** (Broth.) Zand. [*Barbula ditrichoides*] (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Gao & Lai, 2003; Guo, 2003).
  - **rufidulus** (C. Müll.) Broth. [*Barbula rufidula*] (Hu & Wang, 1981; Wang & Tao, 1992; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001; Guo, 2003).
  - **tectorus** (C. Müll.) Saito [*Barbula tectorum*] (Hong & Hu, 1984; Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001; Gao & Lai, 2003).
  - **vinealis** (Brid.) Zand. [*Barbula constricta*, *B. subcontorta*, *B. vinealis*, *D. constrictus*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Li & Crosby, 2001; Gao & Lai, 2003; Guo, 2003).
- Diphyscium** Mohr (Diphysciaceae).
- **fulvifolium** Mitt. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).
- Distichophyllum** Dozy & Molk. (Hookeriaceae).
- **cavaleriei** Thér. (Zhang & Lai, 1993).
  - **collenchymatosum** Card. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Wu, 2002; Wu & Crosby, 2002).
  - **collenchymatosum** Card. var. **pseudosinense** P.-J. Lin & B. C. Tan (Wu, 2002; Wu & Crosby, 2002).
  - **maibarae** Besch. (Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Wu & Crosby, 2002; Zhu, 2003).
- Ditrichopsis** Broth. (Ditrichaceae).
- **gymnostoma** Broth. (Tian, 1997).
- Ditrichum** Hampe, *nom. cons.* (Ditrichaceae).
- **difficile** (Duby) Fleisch. (Tian, 1997).
  - **divaricatum** Mitt. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **heteromallum** (Hedw.) Britt. [*D. subtortile*] (Reimers, 1931; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Wang & Fang, 2002).
  - **pallidum** (Hedw.) Hampe (Salmon, 1900; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Tian, 1997; Gao & Crosby, 1999; Guo, 2003; Zhu, 2003).
  - **pusillum** (Hedw.) Hampe (Tian, 1997).
  - *subtortile* Card. = **D. heteromallum** fide Matsui & Iwatsuki, 1990 (Reimers, 1931; Redfearn & al., 1996).
- Dolichomitra** (Lindb.) Broth. (Lembophyllaceae).
- **cymbifolia** (Lindb.) Broth. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Wu, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- Dolichomitriopsis** Okam. (Lembophyllaceae).
- **diversiformis** (Mitt.) Nog. (Chen & al., 1978; Hong & Hu, 1984; Hu & Wang, 1987; Wu, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Gao & Lai, 2003).
- Drepanocladus** (C. Müll.) G. Roth. (Amblystegiaceae).
- **aduncus** (Hedw.) Warnst. (Dixon, 1933; Redfearn & al., 1996; Hu & Wang, 2005).
  - **aduncus** (Hedw.) Warnst. var. **kneiffii** (B. S. G.) Moenk. (Hu & Wang, 2005).
- Drummondia** Hook. in Drumm., *nom. cons.* (Orthotrichaceae).
- **prorepens** (Hedw.) Brin. var. **latifolia** C. Gao (Guo & Cao, 2001).
  - **sinensis** C. Müll. (Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- Duthiella** C. Müll. in Broth. (Trachypodaceae).
- **flaccida** (Card.) Broth. [*D. pellucens*] (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).

- **flaccida** (Card.) Broth. var. **rigida** (Broth.) Zant. [*D. rigida*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- *pellucens* Card. & Thür. = ***D. flaccida*** fide Zanten, 1959 (Hu & Wang, 1981; Redfearn & al., 1996).
- *rigida* Broth. = ***D. flaccida*** var. ***rigida*** (Hong & Hu, 1984).
- *robusta* Nog. = ***D. wallichii*** fide Kuo & Chiang, 1987 (Hong & Hu, 1984; Redfearn & al., 1996).
- **speciosissima** Broth. ex Card. (Chen & al., 1978; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **wallichii** (Mitt.) C. Müll. in Broth. [*D. robusta*] (Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- Ectropothecium** Mitt. (Hypnaceae).
- **buitenzorgii** (Bel.) Mitt. (Tian, 1997; Wu & Jia, 2004).
- **ohsimensis** Card. & Thér. (Tian, 1997; Wu & Jia, 2004).
- **zollingeri** (C. Müll.) Jaeg. (Li & Gao, 1983; Liu & al., 1989; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Wu & Jia, 2004).
- Entodon** C. Müll. (Entodontaceae).
- *amblyophyllus* C. Müll. = ***E. caliginosus*** fide Hu, 1983 (Hu & Wang, 1981; Redfearn & al., 1996).
- *angustifolius* (Mitt.) Jaeg. = ***E. macropodus*** fide Hu, 1983 (Hong & Hu, 1984; Redfearn & al., 1996).
- *attenuatus* Mitt. = ***E. sullivantii*** var. ***versicolor*** fide Hu, 1983 (Li & Gao, 1983; Redfearn & al., 1996).
- **caliginosus** (Mitt.) Jaeg. [*E. amblyophyllus*, *E. serpentinus*] (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003; Hu & Wang, 2005).
- **cladorrhizans** (Hedw.) C. Müll. (Hu & Wang, 1981; Li & Gao, 1983; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003; Hu & Wang, 2005).
- **compressus** C. Müll. (Hu & Wang, 1981; Hu, 1983; Hu & Wang, 1987; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Zhang & Zhu, 1997; Guo & Cao, 2001; Guo, 2003; Hu & Wang, 2005).
- *conchophyllus* Card. = ***Sakuraia conchophylla*** (Hu, 1983; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- **concinus** (De Not.) Par. (Zhang & Lai, 1993; Guo & Cao, 2001; Hu & Wang, 2005).
- **dolichocucullatus** Okam. (Hu & Wang, 2005).
- *drummondii* (Sull.) Jaeg. = ***E. macropodus*** (Hu & Wang, 1981; Redfearn & al., 1996).
- **flavescens** (Hook.) Jaeg. [*E. ramulosus*] (Potier de la Varde, 1937; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Hu & Wang, 2005).
- **giralidii** C. Müll. (Hu & Wang, 2005).
- **luridus** (Griff.) Jaeg. [*E. okamurae*] (Hu & Wang, 1981; Hu, 1983; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003; Zhu, 2003; Hu & Wang, 2005).
- **macropodus** (Hedw.) C. Müll. [*E. angustifolius*, *E. drummondii*] (Hu & Wang, 1981; Hu, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003; Zhu, 2003; Hu & Wang, 2005).
- **micropodus** Besch. (Hu & Wang, 2005).
- **morrisonensis** Nog. (Hu & Wang, 2005).
- **obtusatus** Broth. (Hu, 1983; Li & Gao, 1983; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Hu & Wang, 2005).
- *okamurae* Broth. ex Card. = ***E. luridus*** fide Mizushima, 1968 (Li & Gao, 1983; Wang & Tao, 1992; Redfearn & al., 1996).
- **prorepens** (Mitt.) Jaeg. (Hu & Wang, 1987; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996).
- **pylaisioides** R.-L. Hu & Y.-F. Wang (Zhang & Lai, 1993).
- *ramulosus* Mitt. = ***E. flavescens*** fide Hu, 1983 (Potier de la Varde, 1937; Redfearn & al., 1996).
- **schensianus** C. Müll. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- *serpentinus* C. Müll. = ***E. caliginosus*** fide Hu, 1983 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- **smaragdinus** Par. & Broth. (Zhang & Lai, 1993).
- **sullivantii** (C. Müll.) Lindb. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Hu & Wang, 2005).
- **sullivantii** (C. Müll.) Lindb. var. ***versicolor*** (Besch.) Mizut. [*E. attenuatus*] (Hu, 1983; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996; Hu & Wang, 2005).
- **taiwanensis** C.-K. Wang & S.-H. Lin (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996; Zhang & Zhu, 1997; Hu & Wang, 2005).
- **viridulus** Card. (Hu & Wang, 1981; Hu, 1983; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Wang & Fang, 2002; Guo, 2003; Hu & Wang, 2005).
- Epipterygium** Lindb. (Bryaceae).
- **tozeri** (Grev.) Lindb. (Hu & Wang, 1987; Redfearn & al., 1996).
- Eriopus* Brid., *nom. illeg.* (Hookeriaceae).
- *mollis* Card. = ***Calyptrochaeta japonica*** fide Iwatsuki & Noguchi, 1973 (Zhang & Lai, 1993).
- *spinus* Nog. = ***Calyptrochaeta spinosa*** (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993;

- Redfearn & al., 1996; Zhu, 2003).
- Erythrodonium** Hampe (Entodontaceae)
- **julaceum** (Schwaegr.) Par. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Hu & Wang, 2005).
- Eurhynchium** Bruch & Schimp. in B.S.G. (Brachytheciaceae).
- **angustirete** (Broth.) T. Kop. [*E. striatum* auct. non (Hedw.) Schimp.] (Hu & Wang, 1987; Qian, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
  - *arbuscula* Broth. in Engler & Prantl. ≡ *Kindbergia arbuscula* (Hu & Wang, 2005).
  - **asperisetum** (C. Müll.) Bartr. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
  - **eustegium** (Besch.) Dix. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
  - **hians** (Hedw.) Lac. (Hu & Wang, 2005).
  - **kirishimense** Takaki (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
  - **laxirete** Broth. in Card. [*Oxyrrhynchium laxirete*] (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
  - *polystictum* Par. = *E. savatieri* fide Iwatsuki & Noguchi, 1973 (Hong & Hu, 1984; Redfearn & al., 1996).
  - *praelongum* (Hedw.) Schimp. in B.S.G. ≡ *Kindbergia praelonga* (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
  - **pulchellum** (Hedw.) Jenn. (Li & Gao, 1983).
  - **savatieri** Schimp. ex Besch. [*E. polystictum*, *Oxyrrhynchium savatieri*] (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Li & al., 1988; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Wang & Fang, 2002; Hu & Wang, 2005).
  - **squarriifolium** Broth. ex. Ihs. (Wang & Tao, 1992; Redfearn & al., 1996).
  - *striatum* auct. non (Hedw.) Schimp. = *E. angustirete* fide Koponen, 1987 (Hu & Wang, 1987; Qian, 1987; Redfearn & al., 1996).
  - **vagans** (Jaeg.) Bartr. [*Rhynchostegium vagans*] (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Eurohypnum** Ando (Hypnaceae).
- **leptothallum** (C. Müll.) Ando [*Homomallium leptothallum*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Wu, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
- Fabronia** Raddi (Fabroniaceae).
- **ciliaris** (Brid.) Brid. (Wu, 2002; Wu & Crosby, 2002).
  - **matsumurae** Besch. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
- Fauriella** Besch. (Theliaceae).
- **tenerrima** Broth. (Hu & Wang, 1981, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Wu & Crosby, 2002; Guo, 2003).
  - **tenuis** (Mitt.) Card. in Broth. (Gao & Cao, 1992; Zhu & al., 1993; Redfearn & al., 1996; Wu, 2002; Wu & Crosby, 2002).
- Felipponea** Broth. in Felipp. (Leucodontaceae).
- **esquirolii** (Thér.) Akiyama [*Leucodon esquirolii*] (Noguchi, 1968; Hu & Wang, 1981, 1987; Akiyama, 1988; Wang & Tao, 1992; Buck, 1993; Redfearn & al., 1996; Guo, 2003).
- Fissidens** Hedw. (Fissidentaceae).
- *adelphinus* Besch. = *F. teysmannianus* fide Li & Crosby, 2001 (Liu & al., 1989; Zhang & Lai, 1993; Zhu & al., 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997).
  - **adanthoides** Hedw. (Li & Gao, 1983; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **bryoides** Hedw. (Hu & Wang, 1981; Li & Gao, 1983; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Guo & Cao, 2001; Li & Crosby, 2001; Wang & Fang, 2002; Guo, 2003).
  - **crassipes** Wils. ex Bruch & Schimp. in B.S.G. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
  - **crispulus** Brid. [*F. incrassatus*, *F. zippelianus*] (Li & Gao, 1983; Liu & al., 1989; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Li & Crosby, 2001).
  - *cristatus* Wils. ex Mitt. = *F. dubius* fide Karttunen, 1987 (Reimers, 1931; Tchen, 1936; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Li, 1985; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).
  - **dubius** P. Beauv. [*F. cristatus*] (Reimers, 1931; Tchen, 1936; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Li, 1985; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Li & Crosby, 2001; Wang & Fang, 2002; Guo, 2003; Zhu, 2003).
  - **geminiflorus** Dozy & Molk. [*F. geminiflorus* var. *nagasakinus*] (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Li & Crosby, 2001).
  - *geminiflorus* Dozy & Molk. var. *nagasakinus* (Besch.) Iwats. = *F. geminiflorus* fide Norris & Koponen, 1987 (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Redfearn & al.,

- 1996).
- **grandifrons** Brid. (Buck, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001).
  - **guangdongensis** Iwats. & Z.-H. Li (Liu & al., 1989; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001).
  - **gymnogynus** Besch. (Zhang & Lai, 1993; Gao, 1996; Tian, 1997; Li & Crosby, 2001).
  - **incrassatus** Sull. & Lesq. = **F. crispulus** (Li & Gao, 1983; Redfearn & al., 1996).
  - **involutus** Wils. ex Mitt. [*F. plagiochiloides*] (Buck, 1993; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001).
  - **japonicus** Dozy & Molk. = **F. nobilis** fide Iwatsuki & Suzuki, 1978 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
  - **laxus** Sull. & Lesq. = **F. pellucidus** fide Pursell, 1994 (Zhang & Lai, 1993; Gao, 1996).
  - **nobilis** Griff. [*F. japonicus*] (Hu & Wang, 1981; Li, 1985; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001; Gao & Lai, 2003; Guo, 2003).
  - **oblongifolius** Hook. & Wils. (Tian, 1997).
  - **obscurus** Mitt. (Zhang & Zhu, 1997).
  - **osmundoides** Hedw. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
  - **papillosus** Sande Lac. = **F. serratus** (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
  - **pellucidus** Hornsch. [*F. laxus*] (Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001).
  - **perdecurrens** Besch. (Li & Gao, 1983; Liu & al., 1989; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Li & Crosby, 2001).
  - **plagiochiloides** Besch. = **F. involutus** fide Iwatsuki & Suzuki, 1999 (Buck, 1993; Gao, 1996; Redfearn & al., 1996).
  - **serratus** C. Müll. [*F. papillosus*] (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
  - **sylvaticus** Griff. = **F. taxifolius** fide Iwatsuki & Suzuki, 1978 (Hong & Hu, 1984; Redfearn & al., 1996).
  - **taxifolius** Hedw. [*F. sylvaticus*] (Hong & Hu, 1984; Li, 1985; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Guo & Cao, 2001; Li & Crosby, 2001; Gao & Lai, 2003).
  - **teysmannianus** Dozy & Molk. [*F. adelphinus*] (Liu & al., 1989; Zhang & Lai, 1993; Zhu & al., 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Li & Crosby, 2001).
  - **tosaensis** Broth. (Zhang & Lai, 1993; Gao, 1996; Guo & Cao, 2001; Li & Crosby, 2001).
  - **wichurae** Broth. & Fleisch. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **zippelianus** Dozy & Molk. in Zoll. = **F. crispulus** (Li & Gao, 1983; Liu & al., 1989; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997).
  - **zollingeri** Mont. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Floribundaria** Fleisch. (Meteoraceae).
- **aurea** (Mitt.) Broth. = **Trachycladiella aurea** (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **floribunda** (Dozy & Molk.) Fleisch. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
  - **sparsa** (Mitt.) Broth. = **Trachycladiella sparsa** (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
  - **walkeri** (Ren. & Card.) Broth. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- Forsstroemia** Lindb. (Cryphaeaceae).
- **producta** (Hornsch.) Par. [*F. sinensis*] (Li & Gao, 1983; Redfearn & al., 1996).
  - **sinensis** (Besch.) Par. = **F. producta** fide Stark, 1987 (Li & Gao, 1983; Redfearn & al., 1996).
  - **trichomitria** (Hedw.) Lindb. (Liu & al., 1989; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996).
- Funaria** Hedw. (Funariaceae).
- **attenuata** (Dicks.) Lindb. [*F. templetonii*] (Hu & Wang, 1981; Zhang & Lai, 1993; Redfearn & al., 1996; Li, 2000; Gao & Crosby, 2003).
  - **hygrometrica** Hedw. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Li, 2000; Guo & Cao, 2001; Gao & Crosby, 2003; Guo, 2003).
  - **templetonii** Sm. = **F. attenuata** (Hu & Wang, 1981; Redfearn & al., 1996).
- Gammiella** Broth. (Sematophyllaceae).
- **pteronioides** (Griff.) Broth. (Zhang & Zhu, 1997).
- Garckea** C. Müll. (Ditrichaceae).
- **comosa** (Dozy & Molk.) Wijk & Margad. = **G. flexuosa** fide Margadant & Norkett, 1973 (Zhu, 1990; Redfearn & al., 1996).
  - **flexuosa** (Griff.) Margad. & Nork. [*G. comosa*] (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- Giraldiella** C. Müll. (Sematophyllaceae).
- **levieri** C. Müll. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- Glyphomitrium** Brid. (Ptychomitriaceae).
- **acuminatum** Broth. (Tian, 1997; Guo & Cao, 2001).
- Gollania** Broth. (Hypnaceae).
- **philippinensis** (Broth.) Nog. (Wu & Jia, 2004).
  - **ruginosa** (Mitt.) Broth. (Hu & Wang, 1981; Hong & Hu, 1984; Higuchi, 1985; Hu & Wang, 1987; Wang

- & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003; Wu & Jia, 2004).
- **varians** (Mitt.) Broth. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003; Zhu, 2003; Wu & Jia, 2004).
- Grimmia** Ehrh. ex Hedw. (Grimmiaceae).
- **affinis** Hornsch. = **G. longirostris** fide Mucoz, 1998 (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **alpicola** Hedw. = **Schistidium rivulare** fide Cao & Vitt, 1986 (Hong & Hu, 1984; Redfearn & al., 1996).
- **apocarpa** Hedw. = **Schistidium apocarpum** (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Redfearn & al., 1996).
- **commutata** Hueb. = **G. ovalis** fide Sayre, 1951 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- **decipiens** (K. Schultz.) Lindb. in Hartm. (Cao & Vitt, 1986; Zhang & Lai, 1993; Redfearn & al., 1996; Li, 2000; Gao & Crosby, 2003).
- **donniana** Sm. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **elatior** Bruch ex Bals. & De Not. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **laevigata** (Brid.) Brid. (Cao & Vitt, 1986; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Li, 2000; Wang & Fang, 2002; Gao & Crosby, 2003; Gao & Lai, 2003).
- **longirostris** Hook. [*G. affinis*] (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Gao & Crosby, 2003).
- **ovalis** (Hedw.) Lindb. [*G. commutata*] (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- **pilifera** P. Beauv. (Hu & Wang, 1981; Li & Gao, 1983; Cao & Vitt, 1986; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Li, 2000; Guo & Cao, 2001; Gao & Crosby, 2003; Gao & Lai, 2003).
- **sinensi-apocarpa** C. Müll. = **Schistidium strictum** fide Cao & Vitt, 1986 (Wang & Tao, 1992; Redfearn & al., 1996).
- Gymnostomum** Nees & Hornsch. (Pottiaceae).
- **aeruginosum** Smith [*G. rupestre*] (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001; Gao & Lai, 2003; Guo, 2003).
- **aurantiacum** (Mitt.) Jaeg. = **Hymenostylium recurvirostre** var. **cylindricum** fide Zander, 1993 (Hu & Wang, 1987; Redfearn & al., 1996).
- **calcareum** Nees & Hornsch. (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- **curvirostrum** Hedw. ex Brid. = **Hymenostylium recurvirostre** (Hu & Wang, 1981; Redfearn & al., 1996).
- **recurvirostrum** Hedw. = **Hymenostylium recurvirostre** (Wang & Tao, 1992; Redfearn & al., 1996).
- **rupestre** Schleicher ex Schwaegr. = **G. aeruginosum** fide Zander, 1993 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- Gyroweisia** Schimp., *nom. cons.* (Pottiaceae).
- **brevicaulis** (C. Müll.) Broth. = **Luisierella barbula** fide Zander, 1977 (Tian, 1997).
- Haplocladium** C. Müll. (Thuidiaceae).
- **angustifolium** (Hampe & C. Müll.) Broth. [*Bryohaplocladium angustifolium*] (Li & Gao, 1983; Hong & Hu, 1984; Liu & al., 1989; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Fang & Koponen, 2001; Guo & Cao, 2001; Wu, 2002; Wu & Crosby, 2002).
- **microphyllum** (Hedw.) Broth. [*Bryohaplocladium microphyllum*, *Pseudoleskea capillata*] (Wilson, 1848; Salmon, 1900; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Fang & Koponen, 2001; Guo & Cao, 2001; Wu & Crosby, 2002; Guo, 2003).
- Haplohymenium** Dozy & Molk., *nom. cons.* (Anomodontaceae).
- **flagelliforme** Savicz-Ljubitskaya (Zhang & Lai, 1993; Tian, 1997).
- **formosanum** Nog. = **H. triste** (Zhu & al., 1993; Redfearn & al., 1996).
- **longinerve** (Broth.) Broth. (Li & Gao, 1983; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- **pseudo-triste** (C. Müll.) Broth. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- **sieboldii** (Dozy & Molk.) Dozy & Molk. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- **triste** (Cesati in De Notaris.) Kindb. [*H. formosanum*] (Noguchi, 1957; Hu & Wang, 1981; Li & Gao, 1983; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003).
- Hedwigia** P. Beauv., *nom. cons.* (Hedwigiaceae).
- **albicans** Lindb., *nom. illeg.* = **H. ciliata** (Tchen, 1936; Hu & Wang, 1981; Redfearn & al., 1996).
- **ciliata** (Hedw.) Ehrh. ex P. Beauv. [*H. albicans*] (Tchen, 1936; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Wang & Fang, 2002; Guo, 2003; Zhu, 2003).

- **ciliata** (Hedw.) Ehrh. ex P. Beauv. var. **viridis** B. S. G. (Salmon, 1900).
- Herpetineuron** (C. Müll.) Card. (Anomodontaceae).
- **toccoae** (Sull. & Lesq.) Card. (Reimers, 1931; Tchen, 1936; Potier de la Varde, 1937; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Wang & Fang, 2002; Wu & Crosby, 2002; Guo, 2003; Zhu, 2003).
- Herzogiella** Broth. (Hypnaceae).
- **striatella** (Brid.) Iwats. (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
- **turfacea** (Lindb.) Iwats. (Zhang & Lai, 1993).
- Heterocladium** Schimp. in B.S.G. (Thuidiaceae).
- **papillosum** (Lindb.) Lindb. = **Pseudoleskeella papillosa** (Guo & Cao, 2001).
- Holomitrium** Brid., *nom. cons.* (Dicranaceae).
- **cylindraceum** (P. Beauv.) Wijk. & Marg. (Tian, 1997).
- **densifolium** (Wils.) Wijk & Marg. [*H. griffithianum*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- *griffithianum* Mitt. = **H. densifolium** fide Iwatsuki, 1978 (Hong & Hu, 1984; Redfearn & al., 1996).
- Homalia** (Brid.) Bruch & Schimp. (Neckeraceae).
- *japonica* Besch. = **H. trichomanoides** fide He, 1997 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **trichomanoides** (Hedw.) Bruch & Schimp. [*H. japonica*] (Chen & al., 1978; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **trichomanoides** (Hedw.) Schimp. var. **japonica** (Besch.) S. He. (He, 1992; Redfearn & al., 1996).
- Homaliadelphus** Dix. & P. Varde (Neckeraceae).
- **targionianus** (Mitt.) Dix. & P. Varde [*Homaliopsis targioniana*] (Tchen, 1936; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Zhu, 2003).
- **targionianus** (Mitt.) Dix. & P. Varde var. **rotundatus** Nog. (Hong & Hu, 1984; Redfearn & al., 1996).
- Homaliodendron** Fleisch. (Neckeraceae).
- **exiguum** (Bosch & Sande Lac.) Fleisch. (Li & Gao, 1983; Liu & al., 1989; Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- **flabellatum** (Sm.) Fleisch. [*H. javanicum*, *H. ligulaefolium*, *H. scalpellifolium*] (Reimers, 1931; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Wang & Fang, 2002; Guo, 2003; Zhu, 2003).
- **javanicum** (C. Müll.) Fleisch. = **H. flabellatum** fide Enroth, 1989 (Hu & Wang, 1981, 1987; Redfearn & al., 1996).
- **ligulaefolium** (Mitt.) Fleisch. = **H. flabellatum** fide Enroth, 1989 (Liu & al., 1989; Redfearn & al., 1996).
- **neckeroides** Broth. = **Neckera neckeroides** (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
- **papillosum** Broth. (Zhang & Lai, 1993).
- **rectifolium** (Mitt.) Fleisch. (Potier de la Varde, 1937; Redfearn & al., 1996).
- **scalpellifolium** (Mitt.) Fleisch. = **H. flabellatum** fide Enroth, 1989 (Reimers, 1931; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Wang & Fang, 2002; Guo, 2003; Zhu, 2003).
- **squarulosum** Fleisch. (Potier de la Varde, 1937). *Homaliopsis* Dixon & P. Varde. in Dixon, *hom. illeg.* (Neckeraceae).
- **targioniana** (Mitt.) Dix. & P. Varde = **Homaliadelphus targionianus** (Tchen, 1936; Redfearn & al., 1996).
- Homalothecium** Schimp. in B.S.G. (Brachytheciaceae).
- **laeisetum** Sande Lac. [*H. leucodonticaule*, *H. perimbricatum*] (Hu & Wang, 1981, 1987; Qian, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Hu & Wang, 2005).
- *leucodonticaule* (C. Müll.) Broth. [*H. perimbricatum*] = **H. laeisetum** fide Hofmann, 1998 (Hu & Wang, 1981, 1987; Qian, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Hu & Wang, 2005).
- *perimbricatum* Broth. = *H. leucodonticaule* fide Pippo, 1987 = **H. laeisetum** fide Hofmann, 1998 (Hu & Wang, 1981, 1987; Qian, 1987; Wang & Tao, 1992; Redfearn & al., 1996).
- **sericeum** (Hedw.) B. S. G. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Homomallium** (Schimp.) Loeske (Hypnaceae).
- **connexum** (Card.) Broth. [*H. hwangshanense*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Wang & Fang, 2002).
- *hwangshanense* Chen & Wu = **H. connexum** (Hu & Wang, 1981; Redfearn & al., 1996).
- **incurvatum** (Brid.) Loeske (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Wang & Fang, 2002).
- **japonico-adnatum** (Broth.) Broth. (Wang & Tao, 1992; Redfearn & al., 1996).

- *leptothallum* (C. Müll.) Nog. ≡ *Eurohypnum leptothallum* (Hu & Wang, 1981; Redfearn & al., 1996).
- Hookeria** J. E. Sm., *nom. cons.* (Hookeriaceae).
- *acutifolia* Hook. & Grev. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Wu, 2002; Wu & Crosby, 2002; Zhu, 2003).
- Hydrogonium* (C. Müll.) Jaeg. (Pottiaceae).
- *arcuatum* (Griff.) Wijk & Marg. ≡ *Barbula arcuata* (Gao, 1996; Li & Crosby, 2001; Gao & Lai, 2003).
- *sordidum* (Besch.) P.-C. Chen ≡ *Barbula sordida* (Gao, 1996; Li & Crosby, 2001; Gao & Lai, 2003).
- Hygroamblystegium** Loeske, *nom. cons.* (Amblystegiaceae).
- *tenax* (Hedw.) Jenn. [*Amblystegium tenax*] (Tian, 1997).
- Hygrohypnum** Lindb. (Amblystegiaceae).
- *eugyrium* (B. S. G.) Broth. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003; Hu & Wang, 2005).
- *luridum* (Hedw.) Jenn. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- *ochraceum* (Wils.) Loeske (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- *purpurascens* Broth. (Hu & Wang, 2005).
- *smithii* (Sw.) Broth. (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- Hylocomium** Bruch & Schimp. (Hylocomiaceae).
- *brevirostre* (Brid.) Bruch & Schimp. ≡ *Loeskeobryum brevirostre* (Zhang & Lai, 1993).
- *brevirostre* (Brid.) Bruch & Schimp. var. *cavifolium* (Lac.) Nog. ≡ *Loeskeobryum cavifolium* (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993).
- *splendens* (Hedw.) Bruch & Schimp. (Zhu & al., 1993; Redfearn & al., 1996).
- Hymenostomum* Brown (Pottiaceae).
- *edentulum* (Mitt.) Besch. ≡ *Weissia edentula* (Hu & Wang, 1987; Redfearn & al., 1996).
- Hymenostylium** Brid. (Pottiaceae).
- *recurvirostre* (Hedw.) Dix. [*Gymnostomum recurvirostrum*, *G. recurvirostrum*] (Hu & Wang, 1981; Wang & Tao, 1992; Gao, 1996; Redfearn & al., 1996; Zhang & Zhu, 1997; Li & Crosby, 2001; Guo, 2003).
- *recurvirostre* (Hedw.) Dix. var. *cylindricum* (Bartr.) Zand. [*Gymnostomum aurantiacum*] (Hu & Wang, 1987; Redfearn & al., 1996).
- Hyophila** Brid. (Pottiaceae).
- *acutifolia* K. Saito (Hu & Wang, 1981; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- *involuta* (Hook.) Jaeg. (Hu & Wang, 1981; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003).
- *javanica* (Nees & Blume) Brid. (Li & Gao, 1983; Redfearn & al., 1996; Guo & Cao, 2001).
- *nymaniana* (Fleisch.) Menzel [*H. rosea*] (Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001).
- *propagulifera* Broth. (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- *rosea* Williams = *H. nymaniana* fide Zander, 1993 (Zhang & Lai, 1993; Gao, 1996).
- *spathulata* (Harv.) Jaeg. (Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001; Gao & Lai, 2003).
- Hypnum** Hedw., *nom. cons.* (Hypnaceae).
- *callichroum* Brid. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
- *cupressiforme* Hedw. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Guo, 2003).
- *erectiusculum* Sull. & Lesq. ≡ *Breidleria erectiuscula* (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
- *fertile* Sendt. (Hu & Wang, 1981; Redfearn & al., 1996; Guo & Cao, 2001).
- *hamulosum* Bruch & Schimp. in B.S.G. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003; Zhu, 2003; Wu & Jia, 2004).
- *lindbergii* Mitt. ≡ *Calliergonella lindbergii* (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- *oldhamii* (Mitt.) Jaeg. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003; Wu & Jia, 2004).
- *pallescens* (Hedw.) P. Beauv. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
- *plumaeforme* Wils. (Reimers, 1931; Tchen, 1936; Potier de la Varde, 1937; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Wang & Fang, 2002; Guo, 2003; Zhu, 2003; Wu & Jia, 2004).
- *revolutum* (Mitt.) Lindb. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Wang & Fang, 2002; Guo, 2003; Zhu, 2003).
- *sakurarii* (Sak.) Ando (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- *schreberi* Willd. ex Brid. ≡ *Pleurozium schreberi* (Hu & Wang, 1981; Redfearn & al., 1996).
- *sikkimense* Ando (Tian, 1997).
- *subimponens* Lesq. (Tian, 1997).

- **tristo-viride** (Broth.) Par. (Tian, 1997; Wu & Jia, 2004).
- **vaucheri** Lesq. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Hypopterygium** Brid. (Hypopterygiaceae).
- **fauriei** Besch. (Zhang & Lai, 1993; Wu, 2002; Wu & Crosby, 2002).
- **flavolimbatum** C. Müll. (Wu & Crosby, 2002).
- **japonicum** Mitt. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Wu & Crosby, 2002; Guo, 2003).
- **tenellum** C. Müll. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- Isocardiella** Dix. (Sematophyllaceae).
- **flagellifera** (Sak.) S. H. Lin = **I. surcularis** fide Tan & Mohamed, 1990 (Zhu, 1990; Redfearn & al., 1996).
- **surcularis** (Dix.) Tan & Mohamed [*I. flagellifera*] (Zhu, 1990; Redfearn & al., 1996).
- Isopterygium** Mitt. (Hypnaceae).
- **albescens** (Hook.) Jaeg. (Tian, 1997; Wu & Jia, 2004).
- **bancanum** (Lac.) Jaeg. (Hu & Wang, 1981; Zhang & Lai, 1993; Guo, 2003; Wu & Jia, 2004) {5}.
- **minutirameum** (C. Müll.) Jaeg. (Zhang & Lai, 1993; Tian, 1997; Wu & Jia, 2004).
- **pendulum** Dix. ex Bartr. (Hong & Hu, 1984; Redfearn & al., 1996).
- **piliferum** (Hartm.) Loeske ≡ **Plagiothecium piliferum** (Hu & Wang, 1987; Redfearn & al., 1996).
- **pohliaecarpum** (Sull. & Lesq.) Jaeg. ≡ **Pseudotaxiphyllum pohliaecarpum** (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Zhu, 2003).
- **serrulatum** Fleisch. (Li & Gao, 1983; Zhu, 1990; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996).
- **subpinnatum** (Salm.) Broth. ex Par. [*Plagiothecium subpinnatum*] (Salmon, 1900; Zhang & Lai, 1993; Redfearn & al., 1996).
- **textorii** (Lac.) Mitt. = **Pseudotaxiphyllum pohliaecarpum** fide Iwatsuki, 1987 (Zhu, 1990; Redfearn & al., 1996).
- Isothecium** Brid. (Lembophyllaceae).
- **subdiversiforme** Broth. (Zhang & Lai, 1993).
- Juratzkaea** Lor. (Fabroniaceae).
- **sinensis** Fleisch. ex Broth. (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- Kiaeria** Hag. (Dicranaceae).
- **glacialis** (Berggr.) Hag. (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- Kindbergia** Ochyra (Brachytheciaceae).
- **arbuscula** (Broth.) Ochyra [*Eurhynchium arbuscula*] (Hu & Wang, 2005).
- **praelonga** (Hedw.) Ochyra [*Eurhynchium praelongum*] (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- Leptodictyum** (Schimp.) Warnst. (Amblystegiaceae).
- **riparium** (Hedw.) Warnst. [*Amblystegium riparium*] (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Hu & Wang, 2005).
- Lescuraea** Bruch & Schimp. (Leskeaceae).
- **incurvata** (Hedw.) Lawton (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- Leskea** Hedw. (Leskeaceae).
- **polycarpa** Hedw. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- Leskeella** (Limpr.) Loeske (Leskeaceae).
- **nervosa** (Brid.) Loeske [*Pseudoleskeella nervosa*] (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
- Leucobryum** Hampe (Leucobryaceae).
- **boninense** Sull. & Lesq. [*L. scaberulum*] (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- **bowringii** Mitt. (Li & Gao, 1983; Hu & Wang, 1987; Zhang & Lai, 1993; Zhu & al., 1993; Gao, 1994; Redfearn & al., 1996; Tian, 1997; Gao & Crosby, 1999; Zhu, 2003).
- **chlorophyllosum** C. Müll. (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999; Gao & Lai, 2003).
- **glaucum** (Hedw.) Aongstr. in Fries (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999; Gao & Lai, 2003; Guo, 2003; Zhu, 2003).
- **javense** (Brid.) Mitt. (Hu & Wang, 1981, 1987; Liu & al., 1989; Wang & Tao, 1992; Gao, 1994; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Gao & Crosby, 1999; Gao & Lai, 2003; Guo, 2003; Zhu, 2003).
- **juniperoideum** (Brid.) C. Müll. [*L. neilgherrense*, *L. textorii*] (Potier de la Varde, 1937; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999; Gao & Lai, 2003; Guo, 2003; Zhu, 2003).
- **neilgherrense** C. Müll. = **L. juniperoideum** fide Yamaguchi & Iwatsuki, 1988 (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Zhu, 2003).
- **scaberulum** Card. in Ren. & Card. = **L. boninense** fide Yamaguchi, 1993 (Liu & al., 1989; Zhang &

- Lai, 1993; Redfearn & al., 1996).
- **scabrum** Sande Lac. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Tian, 1997; Gao & Crosby, 1999; Gao & Lai, 2003; Zhu, 2003).
- *textorii* Besch. = ***L. juniperoideum*** fide Yamaguchi & Iwatsuki, 1988 (Potier de la Varde, 1937; Hu & Wang, 1981; Hong & Hu, 1984; Wang & Tao, 1992; Redfearn & al., 1996).
- Leucodon** Swaegr. (Leucodontaceae).
- *esquirolii* Thřr. = ***Felipponea esquirolii*** (Noguchi, 1968; Hu & Wang, 1981, 1987; Wang & Tao, 1992; Redfearn & al., 1996).
- **exaltatus** C. Müll. (Li & Gao, 1983; Redfearn & al., 1996).
- **sciuroides** (Hedw.) Swaegr. (Hong & Hu, 1984; Zhang & Lai, 1993).
- **secundus** (Harv.) Mitt. (Hu & Wang, 1981; Zhang, 1982; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003).
- **sinensis** Thřr. (Zhang, 1982; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- Lindbergia** Kindb. (Leskeaceae).
- **sinensis** (C. Müll.) Broth. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Loeskeobryum** Fleisch. in Broth. (Hylocomiaceae).
- **brevirostre** (Brid.) Fleisch. ex Broth. [*Hylocomium brevirostre*] (Zhang & Lai, 1993).
- **cavifolium** (Lac.) Fleisch. ex Broth. [*Hylocomium brevirostre* var. *cavifolium*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Zhang & Zhu, 1997; Zhu, 2003) {5}.
- Loxotis** Buck (Meteoriaceae).
- *semitorta* (C. Müll.) Buck [*Papillaria semitorta*] = ***Toloxis semitorta*** (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- Luisierella** Thřr. & P. Varde (Pottiaceae).
- **barbula** (Swaegr.) Steere [*Gyroweisia brevicaulis*] (Tian, 1997).
- Macrocoma** (C. Müll.) Grout (Orthotrichaceae).
- **tenue** (Hook. & Grev.) Vitt. ssp. **sullivantii** (C. Müll.) Vitt. (Tian, 1997).
- Macromitrium** Brid. (Orthotrichaceae).
- *brachycladulum* Broth. & Par. in Broth. = ***M. prolongatum*** (Potier de la Varde, 1937; Redfearn & al., 1996).
- *comatulum* Broth. = ***M. ferriei*** fide Iwatsuki & Noguchi, 1973 (Hong & Hu, 1984; Redfearn & al., 1996).
- **courtoisii** Broth. & Par. (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- **cylindrothecium** Nog. (Tian, 1997).
- **ferriei** Card. & Thřr. [*M. comatulum*] (Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
- **gymnostomum** Sull. & Lesq. (Reimers, 1931; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Wang & Fang, 2002).
- *incurvum* (Lindb.) Mitt. = ***M. japonicum*** fide Iwatsuki & Noguchi, 1973 (Tchen, 1936; Hu & Wang, 1981; Redfearn & al., 1996).
- **involutifolium** (Hook. & Grev.) Swaegr. (Wilson, 1848; Redfearn & al., 1996).
- **japonicum** Dozy & Molk. [*M. incurvum*] (Tchen, 1936; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Redfearn & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003).
- **moorcroftii** (Hook. & Grev.) Swaegr. (Wilson, 1848; Redfearn & al., 1996).
- **prolongatum** Mitt. [*M. brachycladulum*] (Potier de la Varde, 1937; Zhang & Lai, 1993; Redfearn & al., 1996).
- **reinwardtii** Swaegr. (Zhang & Zhu, 1997).
- **sinense** Bartr. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
- Macrothamnium** Fleisch. (Hylocomiaceae).
- **macrocarpum** (Reinw. & Hornsch.) Fleisch. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003; Wu & Jia, 2004).
- Merceya** Schimp. (Pottiaceae).
- *ligulata* (Spruce) Schimp. = ***Scopelophila ligulata*** (Gao, 1996; Gao & Lai, 2003).
- Mesonodon** Hampe (Entodontaceae).
- **flavescens** (Hook.) Buck [*Campyodontium flavescens*] (Hong & Hu, 1984; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- Meteoriella** Okam. (Meteoriaceae).
- **soluta** (Mitt.) Okam. (Hong & Hu, 1984; Hu & Wang, 1987; Wu, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- Meteoriopsis** Fleisch. ex Broth. (Meteoriaceae).
- **reclinata** (C. Müll.) Fleisch. in Broth. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).
- **squarrosa** (Hook.) Fleisch. in Broth. (Tian, 1997).
- Meteorium** (Brid.) Dozy & Molk. (Meteoriaceae).
- **atrovariegatum** Card. & Thřr. [*M. miquellianum* ssp. *atrovariegatum*] (Hong & Hu, 1984; Redfearn & al., 1996).
- **buchananii** (Brid.) Broth. (Hu & Wang, 1987; Liu & al., 1989; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996).

- **buchananii** (Brid.) Broth. ssp. **helminthocladium** (Card.) Nog. [*M. helminthocladium*] (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).
  - **crispifolium** Herz. (Hong & Hu, 1984; Redfearn & al., 1996; Guo, 2003).
  - **helminthocladium** (Card.) Broth. ≡ **M. buchanaanii** ssp. **helminthocladium** (Hu & Wang, 1981; Li & Gao, 1983; Wang & Tao, 1992; Redfearn & al., 1996; Zhu, 2003).
  - **helminthocladum** (C. Müll.) Fleisch. = **M. subpolytrichum** fide Noguchi, 1976 (Reimers, 1931; Hu & Wang, 1981; Redfearn & al., 1996).
  - **horikawae** Nog. [*M. subpolytrichum* ssp. *horikawae*] (Liu & al., 1989; Redfearn & al., 1996; Tian, 1997).
  - **latiphyllum** J.-S. Lou (Tian, 1997).
  - **longipilum** Nog. (Zhu, 1990; Redfearn & al., 1996).
  - **miquelianum** (C. Müll.) Fleisch. in Broth. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
  - **miquelianum** (C. Müll.) ssp. **atrovariegatum** (Card. & Thür.) Nog. ≡ **M. atrovariegatum** (Hong & Hu, 1984; Redfearn & al., 1996).
  - **papillarioides** Nog. (Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
  - **subpolytrichum** (Besch.) Broth. [*M. helminthocladum*] (Reimers, 1931; Hu & Wang, 1981, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Zhu, 2003).
  - **subpolytrichum** (Besch.) Broth. ssp. **horikawae** (Nog.) Nog. ≡ **M. horikawae** (Liu & al., 1989; Redfearn & al., 1996; Tian, 1997).
  - **taiwanense** Nog. (Tian, 1997).
- Microctenidium** Fleisch. (Hypnaceae).
- **heterophyllum** Thür. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003) {12}.
- Miyabea** Broth. (Thuidiaceae).
- **fruticella** (Mitt.) Broth. [*Pterigynandrum sinense*] (Potier de la Varde, 1937; Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
  - **thuidioides** Broth. (Wu, 2002; Wu & Crosby, 2002).
- Mnium** Hedw., *nom. cons.* (Mniaceae).
- **affine** Bland. ex Funck ≡ **Plagiomnium affine** (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
  - **areolosum** X.-J. Li & M. Zang = **Plagiomnium arbusculum** fide Koponen, 1981 (Hong & Hu, 1984; Redfearn & al., 1996).
  - **cuspidatum** Hedw. ≡ **Plagiomnium cuspidatum** (Li & Zang, 1979; Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
  - **cuspidatum** Hedw. ssp. **trichomanes** (Mitt.) Kab. = **Plagiomnium acutum** fide Koponen, 1981 (Li & Zang, 1979; Wang & Tao, 1992; Redfearn & al., 1996).
  - **decurrrens** Schimp. in Salm. = **Plagiomnium japonicum** fide Salmon, 1900 (Hong & Hu, 1984; Redfearn & al., 1996).
  - **formosicum** Card. = **Plagiomnium succulentum** fide Koponen, 1981 (Li & Zang, 1979; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **handelii** Broth. ≡ **Orthomnion handelii** (Li & Zang, 1979; Redfearn & al., 1996).
  - **heterophyllum** (Hook.) Schwaegr. (Li & Zang, 1979; Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
  - **integriradiatum** Dix. = **Plagiomnium succulentum** fide Koponen, 1981 (Li & Zang, 1979; Redfearn & al., 1996).
  - **integrum** Bosch & Sande-Lac. in Dozy & Molk. ≡ **Plagiomnium integrum** (Li & Zang, 1979; Redfearn & al., 1996).
  - **japonicum** Lindb. ≡ **Plagiomnium japonicum** (Li & Zang, 1979; Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
  - **laevinerve** Card. = **M. lycopodioides** fide Koponen, 1994 (Li & Zang, 1979; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
  - **lycopodioides** Schwaegr. [*M. laevinerve*, *M. pseudo-lycopodioides*] (Li & Zang, 1979; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
  - **marginatum** (With.) P. Beauv. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
  - **maximoviczii** Lindb. ≡ **Plagiomnium maximoviczii** (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
  - **microphyllum** Dozy & Molk. ≡ **Trachycystis microphylla** (Li & Zang, 1979; Redfearn & al., 1996).
  - **orthorrhynchum** Brid. = **M. thomsonii** fide Koponen, 1981 (Salmon, 1900; Li & Zang, 1979; Redfearn & al., 1996).
  - **pseudo-lycopodioides** C. Müll. & Kindb. in Macoun = **M. lycopodioides** (Hong & Hu, 1984; Redfearn & al., 1996).
  - **punctatum** Hedw. ≡ **Rhizomnium punctatum** (Li & Zang, 1979; Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **rostratum** Schrad. ≡ **Plagiomnium rostratum** (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
  - **spinosum** (Voit.) Schwaegr. (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
  - **thomsonii** Schimp. [*M. orthorrhynchum*] (Salmon, 1900; Kabiersch, 1937; Li & Zang, 1979; Zhang &

- Lai, 1993; Redfearn & al., 1996).
- *trichomanes* Mitt. = ***Plagiomnium acutum*** fide Koponen, 1981 (Mitten, 1856; Hu & Wang, 1981; Redfearn & al., 1996).
- *undulatum* Hedw. = ***Plagiomnium undulatum*** (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
- *vesicatum* Besch. = ***Plagiomnium vesicatum*** (Li & Zang, 1979; Redfearn & al., 1996).
- Molendoo** Lindb. (Pottiaceae).
- *japonica* Broth. = ***Didymodon japonicus*** (Zhang & Lai, 1993; Gao, 1996).
- ***schliephackei*** (Limpr.) Zand. [*Pleuroweisia schliephackei*] (Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001; Gao & Lai, 2003).
- ***sendtneriana*** (Bruch & Schimp.) Limpr. (Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001).
- ***sendtneriana*** (Bruch & Schimp.) Limpr. var. ***yunnanica*** Gyoerf. (Zhang & Zhu, 1997).
- Myurium** Schimp. (Myuriaceae).
- *katoi* (Broth.) Seki = ***Palisadula katoi*** (Hong & Hu, 1984; Redfearn & al., 1996).
- Myuroclada** Besch. (Brachytheciaceae).
- *concinna* Besch. = ***M. maximowiczii*** (Potier de la Varde, 1937; Redfearn & al., 1996).
- ***maximowiczii*** (Borszcz.) Steere & Schof. [*M. concinna*] (Tchen, 1936; Potier de la Varde, 1937; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003; -Hu & Wang, 2005).
- Neckera** Hedw., *nom. cons.* (Neckeraceae).
- ***coreana*** Card. (Hong & Hu, 1984; Redfearn & al., 1996).
- ***crispa*** Hedw. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- ***douglasii*** W. J. Hooker (Guo, 2003).
- ***flexiramea*** Card. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- ***neckeroides*** (Broth.) Enroth & Tan [*Homaliodendron neckeroides*] (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
- ***pennata*** Hedw. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Wang & Fang, 2002; Guo, 2003).
- ***polyclada*** C. Müll. [*Neckeradelphus menziesii*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- ***yezoana*** Besch. [*N. yezoana* var. *hayachinensis*] (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- ***yezoana*** Besch. var. *hayachinensis* (Card.) Nog. = ***N. yezoana*** fide Noguchi, 1989 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Neckeradelphus** Steere (Neckeraceae).
- ***menziesii*** (Hook.) Steere = ***Neckera polyclada*** fide Noguchi, 1970 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Neckeropsis** Reichdt. (Neckeraceae).
- ***lepineana*** (Mont.) Fleisch. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- ***nitidula*** (Mitt.) Fleisch. (Li & Gao, 1983; Redfearn & al., 1996).
- ***obtusata*** (Mont.) Fleisch. in Broth. (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- Neobarbella** Nog. (Lembophyllaceae).
- ***attenuata*** Nog. = ***N. pilifera*** fide Noguchi, 1970 = ***N. comes*** var. ***pilifera*** (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
- ***comes*** (Griff.) Nog. (Zhu & al., 1993).
- ***comes*** var. ***pilifera*** (Broth. & Yas.) Tan, He & Isov. [*N. attenuata*, *N. pilifera*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- ***pilifera*** (Broth. & Yas.) Nog. [*N. attenuata*] = ***N. comes*** var. ***pilifera*** (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Neodicladiella** (Nog.) Buck (Meteoriaceae).
- ***pendula*** (Sull.) Buck [*Barbella pendula*] (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003).
- Neodolichomitra** Nog. (Hylacomniaceae).
- ***heteronerves*** R.-L. Hong & R.-L. Hu, *nom. nud.* (Hong & Hu, 1984; Redfearn & al., 1996).
- Oedocladium** Mitt. (Pterobryaceae).
- ***rufescens*** (Reinw. & Hornsch.) Mitt. (Hu & Wang, 1987; Redfearn & al., 1996).
- Okamuraea** Broth. (Leskeaceae).
- ***brachydietyon*** (Card.) Nog. (Guo & Cao, 2001; Wu, 2002; Wu & Crosby, 2002).
- ***hakoniensis*** (Mitt.) Broth. (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wu, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Wu, 2002; Wu & Crosby, 2002).
- Oncophorus** (Brid.) Brid. (Dicranaceae).
- ***crispifolius*** (Mitt.) Lindb. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Wang & Fang, 2002).
- ***wahlenbergii*** Brid. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- Orthomnion** Wils. (Mniaceae).
- ***dilatatum*** (Mitt.) P.-C. Chen [*Orthomniopsis dilatata*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang &

- Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Zhu, 2003).
- **handelii** (Broth.) T. Kop. [*Mnium handelii*] (Li & Zang, 1979; Zhang & Lai, 1993; Redfearn & al., 1996).
- **loheri** Broth. (Li & Zang, 1979; Zhang & Lai, 1993; Redfearn & al., 1996).
- Orthomniopsis* Broth. (Mniaceae).
- *dilatata* (Mitt.) Nog. ≡ ***Orthomnion dilatatum*** (Hong & Hu, 1984; Redfearn & al., 1996).
- Orthothecium** Bruch & Schimp., *nom. cons.* (Entodontaceae).
- **intricatum** (Hartm.) B. S. G. (Hu & Wang, 1981, 1987; Redfearn & al., 1996).
- Orthotrichum** Hedw. (Orthotrichaceae).
- **courtoisii** Broth. & Par. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **sordidum** Sull. & Lesq. (Guo & Cao, 2001).
- **speciosum** Nees in Sturm (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- Oxyrrhynchium* (Bruch & Schimp.) Warnst. (Brachytheciaceae).
- *laxirete* (Broth.) Broth. ≡ ***Eurhynchium laxirete*** (Liu & al., 1989; Redfearn & al., 1996).
- *savatieri* (Schimp. ex Besch.) Broth. ≡ ***Eurhynchium savatieri*** (Li & Gao, 1983; Li & al., 1988; Redfearn & al., 1996).
- Oxystegus* (Limpr.) Hilp. (Pottiaceae).
- *cuspidatus* (Dozy & Molk.) P.-C. Chen = ***Trichostomum tenuirostre*** fide Sollman, 1984 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997).
- *cylindricus* (Brid.) Hilp. = *O. tenuirostris* fide Smith, 1977 ≡ ***Trichostomum tenuirostre*** (Hu & Wang, 1981; Hong & Hu, 1984; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Zhu, 2003).
- *tenuirostris* (Hook. & Tayl.) A. J. E. Sm. [*O. cylindricus*] ≡ ***Trichostomum tenuirostre*** (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Zhu, 2003).
- Palamocladium** C. Müll. (Brachytheciaceae).
- **euchloron** (C. Müll.) Wijk & Margad. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003; Hu & Wang, 2005).
- **macrostegium** (Sull. & Lesq.) Par. = ***P. nilgheriense*** fide Noguchi, 1991 (Hu & Wang, 1981, 1987; Qian, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- **nilgheriense** (Mont.) C. Müll. [*P. macrostegium*, *P. sciureum*] (Hu & Wang, 1981, 1987; Qian, 1987; Liu & al., 1989; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Hu & Wang, 2005).
- **sciureum** (Mitt.) Broth. in Par. = ***P. nilgheriense*** fide Noguchi, 1991 (Hu & Wang, 1981; Redfearn & al., 1996).
- Palisadula** Toyama (Sematophyllaceae).
- **katoi** (Broth.) Iwats. [*Clasobryum katoi*, *Myurium katoi*] (Hong & Hu, 1984; Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- Papillaria** (C. Müll.) C. Müll., *nom. cons.* (Metoriaceae).
- *atrata* (Mitt.) Salm. = ***Aerobryidium aureo-nitens*** fide Noguchi, 1976 (Salmon, 1900; Redfearn & al., 1996).
- **feae** C. Müll. ex Fleisch. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- **fuscescens** (Hook.) Jaeg. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- *semitorta* (C. Müll.) Jaeg. ≡ ***Loxotis semitorta*** ≡ ***Toloxis semitorta*** (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- Paraleucobryum** (Lindb. ex Limpr.) Loeske (Dicranaceae).
- **enerve** (Thér.) Loeske (Zhang & Lai, 1993; Gao, 1994; Gao & Crosby, 1999; Gao & Lai, 2003).
- **longifolium** (Hedw.) Loeske (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- Philonotis** Brid. (Bartramiaceae).
- **bartramioides** (Griff.) Griffin & Buck (Tian, 1997).
- *capilliformis* J.-S. Lou & P.-C. Wu = ***P. falcata*** fide Koponen, 1998 (Tian, 1997).
- **falcata** (Hook.) Mitt. [*P. capilliformis*] (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001).
- **fontana** (Hedw.) Brid. (Hu & Wang, 1981; Hong & Hu, 1984; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Wang & Fang, 2002; Guo, 2003).
- *fontana* (Hedw.) Brid. var. *seriata* (Mitt.) Kindb. ≡ ***P. seriata*** (Hong & Hu, 1984; Redfearn & al., 1996).
- **hastata** (Duby) Wijk & Margad. [*P. imbricatula*] (Hong & Hu, 1984; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- *imbricatula* Mitt. = ***P. hastata*** fide Koponen, 1998 (Hong & Hu, 1984; Redfearn & al., 1996).
- **lancifolia** Mitt. (Li & Gao, 1983; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- **marchica** (Hedw.) Brid. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- **nitida** Mitt. = ***P. turneriana*** fide Koponen, 1998 (Zhu, 1990; Redfearn & al., 1996).
- *revoluta* Bosch & Sande Lac. = ***P. thwaitesii*** fide Koponen, 1998 (Li & Gao, 1983; Hong & Hu, 1984;

- Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- **seriata** Mitt. [*P. fontana* var. *seriata*] (Hong & Hu, 1984; Redfearn & al., 1996).
- **setschuanica** (C. Müll.) Par. = ***P. turneriana*** fide Koponen, 1998 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003).
- **socia** Mitt. = ***P. thwaitesii*** fide Koponen, 1998 (Li & Gao, 1983; Redfearn & al., 1996).
- **thwaitesii** Mitt. [*P. revoluta*, *P. socia*] (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Zhu, 2003).
- **turneriana** (Schwaegr.) Mitt. [*P. nitida*, *P. setschuanica*] (Hu & Wang, 1981; Li & Gao, 1983; Zhu, 1990; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003).
- Physcomitrium** (Brid.) Fuernr. (Funariaceae).
- **courtoisii** Par. & Broth. (Hu & Wang, 1981, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Li, 2000; Gao & Crosby, 2003; Guo, 2003).
- **eurystomum** Sendtn. (Liu & al., 1989; Zhang & Lai, 1993; Li, 2000; Gao & Crosby, 2003).
- **japonicum** (Hedw.) Mitt. [*P. limbatulum*] (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Li, 2000; Gao & Crosby, 2003; Guo, 2003).
- **limbatulum** Broth. & Par. = ***P. japonicum*** (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Li, 2000; Guo, 2003).
- **sinensi-sphaericum** C. Müll. (Li, 2000; Gao & Crosby, 2003).
- **sphaericum** (Ludw.) Fűrnr. in Hampe (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- Pilotrichopsis** Besch. (Cryphaeaceae).
- **dentata** (Mitt.) Besch. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Wu, 1992; Buck, 1993; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Zhu, 2003).
- **robusta** P.-C.Chen (Tian, 1997).
- Plagiobryum** Lindb. (Bryaceae).
- **zierii** (Hedw.) Lindb. (Tian, 1997).
- Plagiomnium** T. Kop. (Mniaceae).
- **acutum** (Lindb.) T. Kop. [*Mnium cuspidatum* ssp. *trichomanes*, *M. trichomanes*] (Mitten, 1856; Li & Zang, 1979; Hu & Wang, 1981; Koponen & Lou, 1982; Li & al., 1988; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Wang & Fang, 2002; Guo, 2003).
- **affine** (Bland.) T. Kop. [*Mnium affine*] (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003) {13}.
- **arbusculum** (C. Müll.) T. Kop. [*Mnium areolosum*] (Hong & Hu, 1984; Zhang & Lai, 1993; Redfearn & al., 1996).
- **confertidens** (Lindb. & Arn.) T. Kop. (Hong & Hu, 1984; Zhang & Lai, 1993; Redfearn & al., 1996).
- **cuspidatum** (Hedw.) T. Kop. [*Mnium cuspidatum*] (Li & Zang, 1979; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003; Zhu, 2003) {14}.
- **drummondii** (Bruch. & Schimp.) T. Kop. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- **integrum** (Bosch & Sande Lac.) T. Kop. [*Mnium integrum*] (Li & Zang, 1979; Koponen & Lou, 1982; Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- **japonicum** (Lindb.) T. Kop. [*Mnium decurrens*, *M. japonicum*] (Li & Zang, 1979; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).
- **maximoviczii** (Lindb.) T. Kop. [*Mnium maximoviczii*, *P. maximoviczii* var. *emarginatum*] (Li & Zang, 1979; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
- **maximoviczii** (Lindb.) T. Kop. var. *emarginatum* (X.-J. Li & M. Zang) T. Kop. = ***P. maximoviczii*** fide Koponen, 1981 (Hong & Hu, 1984; Redfearn & al., 1996).
- **rostratum** (Schrad.) T. Kop. [*Mnium rostratum*] (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003; Zhu, 2003).
- **rostratum** (Schrad.) T. Kop. ssp. *vesicatum* (Besch.) Nog. ≡ ***P. vesicatum*** (Tchen, 1936; Liu & al., 1989; Redfearn & al., 1996).
- **succulentum** (Mitt.) T. Kop. [*Mnium formosicum*, *M. integroradiatum*] (Li & Zang, 1979; Koponen & Lou, 1982; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- **undulatum** (Hedw.) T. Kop. [*Mnium undulatum*] (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003) {13}.
- **vesicatum** (Besch.) T. Kop. [*Mnium vesicatum*, *P. rostratum* ssp. *vesicatum*] (Tchen, 1936; Li & Zang, 1979; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996) (14).
- Plagiothecium** Bruch & Schimp. (Plagiotheciaceae).

- **cavifolium** (Brid.) Iwats. (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Hu & Wang, 2005).
- **cavifolium** (Brid.) Iwats. var. **fallax** (Card. & Thřr.) Iwats. (Hu & Wang, 2005).
- **curvifolium** Schlieph. ex Limpr. (Hu & Wang, 2005).
- **delicatulum** Broth. = *Vesicularia flaccida* fide Iwatsuki & Noguchi, 1973 (Hong & Hu, 1984; Redfearn & al., 1996).
- **denticulatum** (Hedw.) Bruch & Schimp. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- **depressum** Dix., *nom. nud.* (Hu & Wang, 1981; Redfearn & al., 1996).
- **euryphyllum** (Card. & Thřr.) Iwats. (Wang & Tao, 1992; Buck, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003; Hu & Wang, 2005).
- **euryphyllum** (Card. & Thřr.) Iwats. var. **brevirameum** (Card.) Iwats. (Zhang & Lai, 1993; Hu & Wang, 2005).
- **laetum** Bruch & Schimp. (Zhang & Lai, 1993; Tian, 1997).
- **neckeroideum** Bruch & Schimp. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Hu & Wang, 2005).
- **neckeroideum** Bruch & Schimp. var. **niitakayamae** (Toyama) Iwats. (Hu & Wang, 2005).
- **neckeroideum** Bruch & Schimp. var. **sikkimense** Ren. & Card. (Tian, 1997).
- **nemorale** (Mitt.) Jaeg. [*P. sylvaticum*] (Hu & Wang, 1981; Hong & Hu, 1984; Liu & al., 1989; Zhu, 1990; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003; Hu & Wang, 2005).
- **piliferum** (Hartm.) Bruch & Schimp. [*Isopterygium piliferum*] (Hu & Wang, 1981, 1987; Redfearn & al., 1996).
- **pilosum** Broth. & Yas. = *Taxiphyllum pilosum* (Wang & Tao, 1992; Redfearn & al., 1996).
- **platyphyllum** Moenk. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- **subpinnatum** Salm. = *Isopterygium subpinnatum* (Salmon, 1900; Redfearn & al., 1996).
- **succulentum** (Wils.) Lindb. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Hu & Wang, 2005).
- **sylvaticum** (Brid.) Bruch & Schimp. = *P. nemorale* fide Iwatsuki, 1991 (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996).
- Platyhypnidium* Fleisch. (Brachytheciaceae).
  - *riparioides* (Hedw.) Dix. = *Rhynchostegium riparioides* (Buck, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- Pleuroidium** Rabonhorst (Ditrichaceae).
  - **acuminatum** Lindb. (Zhang & Lai, 1993).
- Pleuroweisia* Limpr. (Pottiaceae).
  - *schliephackei* Limpr. = *Molendoa schliephackei* (Zhang & Lai, 1993; Gao, 1996; Gao & Lai, 2003).
- Pleurozium** Mitt. (Hylocomiaceae).
  - **schreberi** (Brid.) Mitt. [*Hypnum schreberi*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- Pogonatum** P. Beauv. (Polytrichaceae).
  - *akitense* auct. non Besch. = *P. neesii* fide Hyvőnen, 1989 (Li & Gao, 1983; Liu & al., 1989; Redfearn & al., 1996).
  - **aloides** (Hedw.) P. Beauv. [*Polytrichum aloides*] (Salmon, 1900; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
  - *alpinum* (Hedw.) Roehl = *Polytrichastrum alpinum* (Hu & Wang, 1981; Redfearn & al., 1996).
  - *capillare* (Michx.) Brid. = *P. dentatum* fide Hyvőnen, 1989 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **cirratum** (Sw.) Brid. [*Polytrichum convolutum* var. *cirratum*] (Salmon, 1902; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **cirratum** (Sw.) Brid. ssp. **fuscatum** (Mitt.) Hyvőnen [*P. spurio-cirratum*] (Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
  - **contortum** (Brid.) Lesq. (Zhu, 2003).
  - **dentatum** (Brid.) Brid. [*P. capillare*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **fastigiatum** Mitt. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
  - *gymnophyllum* Mitt. = *P. proliferum* fide Hyvőnen, 1989 (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
  - **inflexum** (Lindb.) Sande Lac. (Reimers, 1931; Potier de la Varde, 1937; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Zhu, 2003).
  - **neesii** (C. Müll.) Dozy [*P. akitense* auct. non Besch.] (Li & Gao, 1983; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
  - **nadiusculum** Mitt. (Zhu, 2003).
  - **proliferum** (Griff.) Mitt. [*P. gymnophyllum*] (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
  - **spinulosum** Mitt. [*Polytrichum spinulosum*] (Salmon, 1900; Hu & Wang, 1981; Hong & Hu, 1984; Hu

- & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003; Wu & Jia, 2004).
- *spurio-cirratum* Broth. = *P. cirratum* ssp. *fuscatum* fide Hyvönen, 1989 (Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Redfearn & al., 1996; Zhu, 2003).
- **urnigerum** (Hedw.) P. Beauv. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Wu & Jia, 2004).
- Pohlia** Hedw. (Bryaceae).
- **acuminata** Hoppe & Hornsch. (Tian, 1997).
- **cruda** (Hedw.) Lindb. (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Zhu, 2003).
- **elongata** Hedw. (Zhang & Lai, 1993).
- **flexuosa** Hook. [*P. scabridens*, *Webera scabridens*] (Salmon, 1900; Chen & al., 1963; Li & Gao, 1983; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- **lescuriana** (Sull.) Grout (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **longicollis** (Hedw.) Lindb. (Tian, 1997).
- **nutans** (Hedw.) Lindb. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **proligera** (Kindb.) Lindb. ex Arn. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- *scabridens* (Mitt.) Broth. = *P. flexuosa* (Chen & al., 1963; Redfearn & al., 1996).
- Polytrichastrum** G. L. Sm. (Polytrichaceae).
- **alpinum** (Hedw.) G. L. Sm. [*Pogonatum alpinum*, *Polytrichum alpinum*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **formosum** (Hedw.) G. L. Sm. [*Polytrichum formosum*] (Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- **longisetum** (Brid.) G. L. Sm. (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).
- **ohioense** (Ren. & Card.) G. L. Sm. [*Polytrichum decipiens*] (Hu & Wang, 1981, 1987; Redfearn & al., 1996; Guo, 2003).
- Polytrichum** Hedw. (Polytrichaceae).
- **aloides** Hedw. = *Pogonatum aloides* (Salmon, 1900; Redfearn & al., 1996).
- **alpinum** Hedw. = *Polytrichastrum alpinum* (Hong & Hu, 1984; Wang & Tao, 1992; Redfearn & al., 1996).
- **commune** Hedw. (Salmon, 1900; Reimers, 1931; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- **convolutum** var. *cirratum* (Sw.) C. Müll. = *Pogonatum cirratum* (Salmon, 1902; Redfearn & al., 1996).
- **decipiens** Limpr. = *Polytrichastrum ohioense* fide Smith, 1971 (Hu & Wang, 1981; Redfearn & al., 1996).
- **formosum** Hedw. = *Polytrichastrum formosum* (Hong & Hu, 1984; Liu & al., 1989; Redfearn & al., 1996; Zhu, 2003).
- **juniperinum** Hedw. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- **spinulosum** (Mitt.) Kindb. = *Pogonatum spinulosum* (Salmon, 1900; Redfearn & al., 1996).
- Porotrichum** (Brid.) Hampe (Neckeraceae).
- **plagiorhynchum** Ren. & Card. (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003) {15}.
- Pottia** (Reichenb.) Fuernr. (Pottiaceae).
- **lanceolata** (Hedw.) C. Müll. (Zhang & Lai, 1993).
- Pseudobarbella** Nog. (Meteoraceae).
- **angustifolia** Nog. (Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997).
- **attenuata** (Thwait. & Mitt.) Nog. (Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- **laxifolia** Nog. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- **levieri** (Ren. & Card.) Nog. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).
- **propagulifera** Nog. (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996; Zhu, 2003).
- **validiramosa** Wu & Lou (Tian, 1997).
- Pseudochorisodontium** (Broth.) C. Gao, D. Vitt, X. Fu & T. Cao (Dicranaceae).
- **gymnostomum** (Mitt.) C. Gao, D. Vitt, X. Fu & T. Cao [*Dicranum gymnostomum*] (Zhang & Lai, 1993; Tian, 1997).
- **hokinense** (Besch.) C. Gao, D. Vitt, X. Fu & T. Cao [*Dicranum hokinense*] (Tian, 1997) {16}.
- Pseudoleskea* Bruch & Schimp. (Leskeaceae)
- **capillata** (Mitt.) Sauerb. in Jaeg. = *Haplocladium microphyllum* fide Iwatsuki, 1991 (Salmon, 1900).
- Pseudoleskeella** Kindb. (Leskeaceae).
- **catenulata** (Brid. ex Schrad.) Kindb. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **nervosa** (Brid.) Nyl. = *Leskeella nervosa* (Guo & Cao, 2001; Guo, 2003).
- **papillosa** (Lindb.) Kindb. [*Heterocladium papillo-*

- sum*] (Guo & Cao, 2001).
- Pseudoleskeopsis** Broth. (Leskeaceae).  
 — *japonica* (Sull.) Iwats. = *P. zippelii* fide Iwatsuki, 1976 (Li & Gao, 1983; Hong & Hu, 1984; Redfearn & al., 1996).  
 — *tosana* Card. (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Wu, 2002; Wu & Crosby, 2002; Guo, 2003).  
 — *zippelii* (Dozy & Molk.) Broth. [*P. japonica*] (Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Wu, 2002; Wu & Crosby, 2002).
- Pseudospiridentopsis** (Broth.) Fleisch. (Trachypodaceae).  
 — *horrida* (Card.) Fleisch. (Chen & al., 1978; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Gao & Lai, 2003; Guo, 2003).
- Pseudostereodon** (Broth.) Fleisch. (Hypnaceae).  
 — *procerrimum* (Mol.) Fleisch. (Tian, 1997).
- Pseudosymblespharis** Broth. (Pottiaceae).  
 — *angustata* (Mitt.) P.-C. Chen [*P. papillosula*, *P. subduriuscula*] (Potier de la Varde, 1937; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Li & Crosby, 2001; Wang & Fang, 2002; Gao & Lai, 2003; Guo, 2003).  
 — *duriuscula* (Mitt.) P.-C. Chen (Zhang & Lai, 1993; Tian, 1997; Li & Crosby, 2001).  
 — *papillosula* (Card. & Thér.) Broth. = *P. angustata* fide Saito, 1975 (Potier de la Varde, 1937; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Gao, 1996).  
 — *subduriuscula* (C. Müll.) P.-C. Chen = *P. angustata* fide Norris & Koponen, 1987 (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996).
- Pseudotaxiphyllum** Iwats. (Plagiotheciaceae).  
 — *pohliaecarpum* (Sull. & Lesq.) Iwats. [*Isopterygium pohliaecarpum*, *I. textorii*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhu, 1990; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003; Wu & Jia, 2004).
- Pterigynandrum** Hedw. (Entodontaceae).  
 — *sinense* P. Varde = *Miyabea fruticella* fide Stark & Buck, 1986 (Potier de la Varde, 1937; Redfearn & al., 1996).
- Pterobryon** Hornsch. (= *Pterobryum*) (Pterobryaceae).  
 — *arbuscula* Mitt. (Zhang & Zhu, 1997).  
 — *subarbuscula* Broth. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- Ptychomitrium** Fuernr., *nom. cons.* (Ptychomitriaceae).  
 — *dentatum* (Mitt.) Jaeg. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003; Zhu, 2003).  
 — *fauriei* Besch. (Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Cao & al., 1995; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001; Gao & Lai, 2003).  
 — *gardneri* Lesq. [*P. polyphyloides*] (Hu & Wang, 1981, 1987; Buck, 1993; Cao & Vitt, 1994; Cao & al., 1995; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Li & Crosby, 2001; Guo, 2003).  
 — *linearifolium* Reim. & Sak. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Cao & al., 1995; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Li & Crosby, 2001; Gao & Lai, 2003; Guo, 2003; Zhu, 2003).  
 — *polyphyloides* (C. Müll.) Par. = *P. gardneri* fide Cao & al., 1995 (Hu & Wang, 1981, 1987; Buck, 1993; Redfearn & al., 1996; Tian, 1997).  
 — *sinense* (Mitt.) Jaeg. (Li & Gao, 1983; Hong & Hu, 1984; Liu & al., 1989; Buck, 1993; Zhang & Lai, 1993; Cao & Vitt, 1994; Cao & al., 1995; Gao, 1996; Redfearn & al., 1996; Guo & Cao, 2001; Li & Crosby, 2001; Gao & Lai, 2003; Guo, 2003).  
 — *wilsonii* Sull. & Lesq. (Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Cao & al., 1995; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Li & Crosby, 2001; Gao & Lai, 2003).
- Pylaisia** Schimp. (Hypnaceae).  
 — *brotheri* Besch. [*Pylaisiella brotheri*] (Li & Gao, 1983; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997).  
 — *falcata* B.S.G. [*Pylaisiella falcata*] (Zhang & Lai, 1993).  
 — *polyantha* (Hedw.) Schimp. in B.S.G. [*Pylaisiella polyantha*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).  
 — *selwynii* Kindb. [*Pylaisiella selwynii*] (Hong & Hu, 1984; Redfearn & al., 1996).
- Pylaisiadelpha** Buck (Sematophyllaceae).  
 — *erythrocaulis* (Mitt.) Buck = *Brotherella erythrocaulis* (Tian, 1997; Zhang & Zhu, 1997).  
 — *falcatula* (Broth.) Buck = *Brotherella falcatula* (Tian, 1997).  
 — *integrifolia* (Broth.) Buck = *Brotherella integrifolia* (Tian, 1997).  
 — *tenuirostris* (Bruch & Schimp. ex Sull.) Buck [*Brotherella tenuirostris*] (Hu & Wang, 1981; Redfearn & al., 1996; Zhu, 2003; Wu & Jia, 2004).  
 — *yokohamae* (Broth.) Buck [*Brotherella yokohamae*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang &

- Lai, 1993; Redfearn & al., 1996; Wu & Jia, 2004).  
*Pylaisiella* Kindb. ex Grout (Hypnaceae).  
 — *brotheri* (Besch.) Iwats. & Nog. = *Pylaisia brotheri* (Liu & al., 1989; Zhang & Lai, 1993; Tian, 1997; Zhang & Zhu, 1997).  
 — *falcata* (Schimp. in B. S. G.) Ando = *Pylaisia falcata* (Zhang & Lai, 1993).  
 — *polyantha* (Hedw.) Grout = *Pylaisia polyantha* (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Guo & Cao, 2001; Guo, 2003).  
 — *selwynii* (Kindb.) Crum, Steere & Anderson = *Pylaisia selwynii* (Hong & Hu, 1984; Redfearn & al., 1996).
- Pyrrhobryum** Mitt. (Rhizogoniaceae).  
 — *dozymanum* (Sande Lac.) Manuel [*Rhizogonium dozymanum*] (Reimers, 1931; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).  
 — *latifolium* (Bosch & Sande Lac.) Mitt. [*Rhizogonium longiflorum*] (Zhu & al., 1993; Redfearn & al., 1996).  
 — *spiniforme* (Hedw.) Mitt. [*Rhizogonium spiniforme*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).
- Racomitrium** Brid. (Grimmiaceae).  
 — *aciculare* (Hedw.) Brid. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996; Li, 2000; Gao & Crosby, 2003) {17}.  
 — *anomodontoides* Card. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Li, 2000).  
 — *barbuloides* Card. (Gao & Crosby, 2003).  
 — *brevisetum* Lindb. (Li, 2000; Gao & Crosby, 2003).  
 — *canescens* (Hedw.) Brid. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Gao & Crosby, 2003; Guo, 2003; Zhu, 2003).  
 — *canescens* (Hedw.) Brid. var. *ericoides* (Web. ex Brid.) Hampe = *R. ericoides* (Hong & Hu, 1984).  
 — *canescens* (Hedw.) Brid. var. *strictum* Schlieph. in Limpr. (Potier de la Varde, 1937; Redfearn & al., 1996).  
 — *ericoides* (Hedw.) Brid. [*R. canescens* var. *ericoides*] (Hong & Hu, 1984; Hu & Wang, 1987; Redfearn & al., 1996).  
 — *fasciculare* (Hedw.) Brid. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).  
 — *japonicum* Dozy & Molk. (Li, 2000; Gao & Crosby, 2003).  
 — *lanuginosum* (Hedw.) Brid. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).  
 — *polyphyloides* (C. Müll.) Par. (Hu & Wang, 1981, 1987; Redfearn & al., 1996) {3}.
- Racopilum** P. Beauv. (Racopilaceae).  
 — *aristatum* Mitt. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Guo, 2003; Zhu, 2003).
- Radulina** Buck & Tan (Sematophyllaceae).  
 — *elegantissima* (Fleisch.) Buck & Tan [*Trichosteleum elegantissimum*] (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003) {18}.
- Rauiella** Reim. (Thuidiaceae).  
 — *fujisana* (Par.) Reim. (Hu & Wang, 1987; Redfearn & al., 1996).
- Regmatodon** Brid. (Leskeaceae).  
 — *declinatus* (Hook.) Brid. (Tchen, 1936; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Wu, 2002; Wu & Crosby, 2002).
- Rhaphidorrhynchium** Fleisch. (Sematophyllaceae).  
 — *subcylindricum* (Broth.) Fleisch. = *Sematophyllum subcylindricum* (Hu & Wang, 1981; Redfearn & al., 1996).
- Rhaphidostichum** Fleisch. (Sematophyllaceae).  
 — *boschii* (Dozy & Molk.) Seki ssp. *thelidictyon* (Sull. & Lesq.) Seki = *Trichosteleum boschii* (Tian, 1997).
- Rhizogonium** Brid. (Rhizogoniaceae).  
 — *dozymanum* Sande Lac. = *Pyrrhobryum dozymanum* (Reimers, 1931; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).  
 — *longiflorum* (Mitt.) Jaeg. = *Pyrrhobryum latifolium* fide Manuel, 1980 (Zhu & al., 1993; Redfearn & al., 1996).  
 — *spiniforme* (Hedw.) Bruch in Krauss = *Pyrrhobryum spiniforme* (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- Rhizomnium** (Broth.) T. Kop. (Mniaceae).  
 — *pseudopunctatum* (Bruch & Schimp.) T. Kop. (Hong & Hu, 1984; Redfearn & al., 1996).  
 — *punctatum* (Hedw.) T. Kop. [*Mnium punctatum*] (Li & Zang, 1979; Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996) {13}.  
 — *tuomikoskii* T. Kop. (Koponen & Lou, 1982; Zhu, 1990; Zhang & Lai, 1993).
- Rhodobryum** Hampe (Bryaceae).  
 — *giganteum* (Schwaegr.) Par. [*Bryum giganteum*] (Salmon, 1900; Hu & Wang, 1981; Koponen & al., 1982; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).  
 — *roseum* (Hedw.) Limpr. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992;

- Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003; Zhu, 2003).
- Rhynchostegiella** (Bruch & Schimp. in B. S. G.) Limpr. (Brachytheciaceae).
- **curvisteta** (Brid.) Limpr. (Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
  - **laeviseta** Broth. (Hu & Wang, 2005).
  - **leptoneura** Dix. & Thér. (Zhang & Lai, 1993; Guo & Cao, 2001).
  - **tenella** (Dicks) Limpr. (Qian, 1987; Redfearn & al., 1996).
  - **sakuraii** Tak. (Tian, 1997).
- Rhynchostegium** Bruch & Schimp. (Brachytheciaceae).
- **contractum** Card. (Hu & Wang, 2005).
  - **fauriei** Card. (Qian, 1987; Redfearn & al., 1996; Zhu, 2003; Hu & Wang, 2005).
  - **inclinatum** (Mitt.) Jaeg. [*R. plumosum*] (Hu & Wang, 1981, 1987; Qian, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **murale** (Hedw.) Bruch & Schimp. in Bruch & al. (Buck, 1993; Redfearn & al., 1996).
  - **pallidifolium** (Mitt.) Jaeg. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Qian, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Hu & Wang, 2005).
  - *plumosum* Thürr. = **R. inclinatum** fide Noguchi, 1991 (Hu & Wang, 1981, 1987; Qian, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **riparioides** (Hedw.) Card. in Tourret [*Platyhypnidium riparioides*] (Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Hu & Wang, 2005).
  - **rubro-carinatum** Sak. (Zhu, 1990; Redfearn & al., 1996).
  - **sinense** (Broth. & Par.) Broth. (Li & Gao, 1983; Redfearn & al., 1996).
  - *vagens* Jaeg. = **Eurhynchium vagans** (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Rhytidiadelphus** (Lindb. ex Limpr.) Warnst. (Hylacomiaceae).
- **rouanosus** Broth., *nom. nud.* (Hu & Wang, 1981; Redfearn & al., 1996).
  - **squarrosus** (Hedw.) Warnst. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
  - **triquetrus** (Hedw.) Warnst. (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Wu & Jia, 2004).
  - *triquetrus* (Hedw.) Warnst. var. *ovatophyllus* R.-L. Hong & R.-L. Hu, *nom. nud.* (Hong & Hu, 1984; Zhang & Lai, 1993; Redfearn & al., 1996).
- Rosulabryum** Spence (Bryaceae).
- **billardieri** (Schwaegr.) Spence [*Bryum billardieri*, *B. leptothecium*, *B. truncorum*] (Wilson, 1848; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhang & Zhu, 1997).
  - **capillare** (Hedw.) Spence [*Bryum capillare*] (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003).
- Saelania** Lindb. (Ditrichaceae).
- **glaucescens** (Hedw.) Broth. in Bomanss & Broth. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
  - *glaucescens* (Hedw.) Broth. var. *crassinervosa* R.-L. Hong & R.-L. Hu, *nom. nud.* (Hong & Hu, 1984; Redfearn & al., 1996).
- Sakuraia** Broth. (Entodontaceae).
- **conchophylla** (Card.) Nog. [*Entodon conchophyllus*] (Hu, 1983; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003; Hu & Wang, 2005).
- Schistidium** Brid. (Grimmiaceae).
- **apocarpum** (Hedw.) Bruch & Schimp. in B. S. G. [*Grimmia apocarpa*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
  - **rivulare** (Brid.) Podp. [*Grimmia alpicola*] (Hong & Hu, 1984; Cao & Vitt, 1986; Zhang & Lai, 1993; Redfearn & al., 1996; Li, 2000; Guo & Cao, 2001; Gao & Crosby, 2003; Gao & Lai, 2003).
  - **strictum** (Turn.) Loeske ex Martensson [*G. sinensis-apocarpa*] (Cao & Vitt, 1986; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Li, 2000; Gao & Crosby, 2003; Gao & Lai, 2003; Guo, 2003).
- Schlotheimia** Brid. (Orthotrichaceae).
- **grevilleana** Mitt. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
  - **japonica** Besch. & Card. (Hu & Wang, 1981; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **pungens** Bartr. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Zhu, 2003).
  - **rugulosa** Nog. (Buck, 1993; Redfearn & al., 1996).
- Schraderella** C. Müll. (Sematophyllaceae).
- **pungens** C. Müll. (Hu & Wang, 1981; Redfearn & al., 1996).
- Schwetschkea** C. Müll. (Fabroniaceae).
- **courtoisii** Broth. & Par. (Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
  - **laxa** (Wils.) Jaeg. [*S. matsumurae*] (Guo & Cao, 2001).

- *matsumurae* Besch. = *S. laxa* (Guo & Cao, 2001).
- Schwetschkeopsis** Broth. (Fabroniaceae).
- **fabronia** (Schwaegr.) Broth. [*S. japonica*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Wu & Crosby, 2002; Guo, 2003; Zhu, 2003).
- *japonica* (Besch.) Broth. = *S. fabronia* fide Iwatsuki & Noguchi, 1973 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996; Zhu, 2003).
- Scopelophila** (Mitt.) Lindb. (Pottiaceae).
- **cataractae** (Mitt.) Broth. (Tian, 1997).
- **ligulata** (Spruce) Spruce [*Merceya ligulata*] (Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001; Gao & Lai, 2003).
- Sematophyllum** Mitt. (Sematophyllaceae).
- *caespitosum* (Hedw.) Mitt. = *S. subpinnatum* fide Tan & Jia, 1999 (Tian, 1997).
- *henryi* (Par. & Broth.) Broth. = *S. subhumile* fide Tan & Jia, 1999 (Tian, 1997; Zhu, 2003).
- **micans** (Mitt.) Braithw (Tian, 1997).
- **phoeniceum** (C. Müll.) Fleisch. (Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Wu & Jia, 2004).
- *pulchellum* (Card.) Broth. = *S. subhumile* fide Tan & Jia, 1999 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- *robustulum* (Card.) Broth. = *S. subpinnatum* fide Tan & Jia, 1999 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- *saproxylophilum* (C. Müll.) Fleisch. ≡ *Trichosteleum saproxylophilum* (Hu & Wang, 1981; Wang & Tao, 1992; Buck, 1993; Redfearn & al., 1996; Guo, 2003).
- **subcylindricum** (Fleisch.) Sainsbh. [*Rhaphidorrhynchium subcylindricum*] (Hu & Wang, 1981; Redfearn & al., 1996).
- **subhumile** (C. Müll.) Fleisch. [*S. henryi*, *S. pulchellum*, *S. subhumile* ssp. *japonicum*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Zhu, 2003; Wu & Jia, 2004).
- *subhumile* (C. Müll.) Fleisch. ssp. *japonicum* (Broth.) Seki = *S. subhumile* fide Tan & Jia, 1999 (Tian, 1997).
- **subpinnatum** (Brid.) Britt. [*S. caespitosum*, *S. robustulum*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Wu & Jia, 2004).
- **tristiculum** (Mitt.) Fleisch. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Sphaerotherciella** Fleisch. (Cryphaeaceae).
- **sphaerocarpa** (Hook.) Fleisch. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- Sphagnum** L. (Sphagnaceae).
- **acutifolioides** Warnst. (Zhang & Lai, 1993; Gao, 1994; Gao & Crosby, 1999; Gao & Lai, 2003).
- **capillifolium** (Ehrh.) Hedw. [*S. nemoreum*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- *cymbifolium* (Ehrh.) Hedw. = *S. palustre* (Salmon, 1900; Reimers, 1931; Tchen, 1936; Chen & Lee, 1956; Redfearn & al., 1996).
- **junghuhnianum** Dozy & Molck. (Chen & Lee, 1956; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Gao & Crosby, 1999).
- **junghuhnianum** Dozy & Molck. var. **pseudomolle** (Warnst.) Warnst. (Gao, 1994; Gao & Crosby, 1999).
- *nemoreum* Scop. = *S. capillifolium* fide Anderson, 1990 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhu, 2003).
- **ovatum** Hampe in C. Müll. (Zhang & Lai, 1993; Gao, 1994; Gao & Lai, 2003).
- **palustre** L. [*S. cymbifolium*, *S. pseudo-cymbifolium*] (Salmon, 1900; Reimers, 1931; Tchen, 1936; Chen & Lee, 1956; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Gao & Crosby, 1999; Gao & Lai, 2003; Guo, 2003; Zhu, 2003).
- **palustre** L. ssp. **pseudocymbifolium** (C. Müll.) A. Eddy (Gao, 1994; Gao & Crosby, 1999).
- *pseudo-cymbifolium* C. Müll. = *S. palustre* fide Iwatsuki, 1991 (Chen & Lee, 1956; Redfearn & al., 1996).
- **squarrosus** Crome in Hoppe (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Struckia** C. Müll. (Sematophyllaceae).
- **argentata** (Mitt.) C. Müll. (Tian, 1997).
- Symblepharis** Mont. (Dicranaceae).
- **reinwardtii** (Dozy & Molck.) Mitt. (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- **vaginata** (Hook.) Wijk & Marg. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
- Syrhropodon** Schwaegr. (Calymperaceae).
- **japonicus** (Besch.) Broth. (Hong & Hu, 1984; Lin, 1984; Liu & al., 1989; Reese & Lin, 1991; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001; Gao & Lai, 2003).
- Taxiphyllum** Fleisch. (Hypnaceae).
- **alternans** (Card.) Iwats. (Guo & Cao, 2001).
- **aomoriense** (Besch.) Iwats. (Zhu & al., 1993; Redfearn & al., 1996).
- **giraldii** (C. Müll.) Fleisch. (Zhang & Lai, 1993).
- **maniae** (Ren. & Card.) Fleisch. (Tian, 1997).
- **pilosum** (Broth. & Yas.) Iwats. [*Plagiothecium pilosum*] (Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).

- **subarcuatum** (Broth.) Iwats. (Zhang & Lai, 1993).
- *subarcuatum* (Broth.) Iwats. var. *scapelliforme* R.-L. Hong & R.-L. Hu, *nom. nud.* (Hong & Hu, 1984; Redfearn & al., 1996; Zhu, 2003).
- **taxirameum** (Mitt.) Fleisch. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Guo, 2003; Zhu, 2003).
- Taxithelium** Spruce ex Mitt. (Sematophyllaceae).
- *batanense* Bartr. = ***T. oblongifolium*** (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- **kerianum** (Broth.) Broth. (Tian, 1997).
- **nepalense** (Schwaegr.) Broth. (Tian, 1997; Zhang & Zhu, 1997).
- **oblongifolium** (Sull. & Lesq.) Iwats. [*T. batanense*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Thamnium** Bruch & Schimp. in B. S. G., *hom. illeg.* (Neckeraceae).
- *biondii* C. Müll. = ***Thamnobryum alleghaniense*** (Paris, 1907; Redfearn & al., 1996).
- *sandei* Besch. = ***Thamnobryum subseriatum*** fide Tan, 1989 (Tchen, 1936; Redfearn & al., 1996).
- Thamnobryum** Nieuwl. (Neckeraceae).
- *alleghaniense* (C. Müll.) Nieuwl. [*Thamnium biondii*] (Paris, 1907; Redfearn & al., 1996) {6}.
- **alopecurum** (Hedw.) Nieuwl. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- *sandei* (Besch.) Iwats. = ***T. subseriatum*** fide Tan, 1989 (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Redfearn & al., 1996).
- **subseriatum** (Mitt. ex Sande Lac.) B. C. Tan [*Thamnium sandei*, *Thamnobryum sandei*] (Tchen, 1936; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Guo, 2003).
- Thuidium** Bruch & Schimp. in B.S.G. (Thuidiaceae) {19}.
- **assimile** (Mitt.) Jaeg. [*T. philibertii*] (Reimers, 1931; Potier de la Varde, 1937; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Fang & Koponen, 2001; Guo & Cao, 2001; Wu, 2002; Wu & Crosby, 2002; Guo, 2003; Zhu, 2003).
- *contortulum* (Mitt.) Jaeg. = ***Cyrto-hypnum contortulum*** (Guo & Cao, 2001).
- **cymbifolium** (Dozy & Molke.) Dozy & Molk. (Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Fang & Koponen, 2001; Guo & Cao, 2001; Wang & Fang, 2002; Wu & Crosby, 2002; Guo, 2003; Zhu, 2003).
- **delicatulum** (Hedw.) Schimp. [*T. recognitum* var. *delicatulum*] (Tchen, 1936; Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001).
- **glaucinoides** Broth. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- *glaucinum* (Mitt.) Bosch & Sande Lac. = ***T. pristocalyx*** fide Watanabe, 1991 (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Zhu, 2003).
- **kanedae** Sakurai (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Wu, 2002; Wu & Crosby, 2002; Guo, 2003; Zhu, 2003).
- *lepidoziaeum* Sakurai = ***Cyrto-hypnum vestitissimum*** fide Wu & Crosby, 2002 (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- *minutulum* (Hedw.) Schimp. = ***Cyrto-hypnum minutulum*** (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- *philibertii* Limpr. = ***T. assimile*** (Hu & Wang, 1981; Hong & Hu, 1984; Wang & Tao, 1992; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Fang & Koponen, 2001; Guo & Cao, 2001; Guo, 2003; Zhu, 2003).
- **pristocalyx** (C. Müll.) Jaeg. [*T. glaucinum*] (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Fang & Koponen, 2001; Wang & Fang, 2002; Wu, 2002; Wu & Crosby, 2002; Zhu, 2003).
- *pygmaeum* Bruch & Schimp. = ***Cyrto-hypnum pygmaeum*** (Zhang & Zhu, 1997).
- **recognitum** (Hedw.) Lindb. (Tchen, 1936; Zhang & Lai, 1993; Redfearn & al., 1996) {20}.
- *recognitum* (Hedw.) Lindb. var. *delicatulum* (Hedw.) Warnst. = ***T. delicatulum*** (Hong & Hu, 1984; Redfearn & al., 1996; Guo & Cao, 2001).
- *rubiginosum* Besch. = ***Cyrto-hypnum tamariscellum*** (Hu & Wang, 1981, 1987; Wang & Tao, 1992; Redfearn & al., 1996; Guo, 2003).
- **subglaucinum** Card. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Zhang & Zhu, 1997; Wu & Crosby, 2002).
- **submicropteris** Card. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).

- *tamariscellum* auct. non (C. Müll.) Bosch & Lac. ≡ *Cyrto-hypnum tamariscellum* (Hu & Wang, 1981, 1987; Redfearn & al., 1996).
- *tamariscinum* (Hedw.) B. S. G. (Hu & Wang, 1981; Zhang & Lai, 1993; Guo, 2003).
- Thysanomitrium* Schwaegr. (Dicranaceae).
- *richardii* auct. non (Brid.) Schwaegr. = *Campylopus umbellatus* fide Kuo & Chiang, 1987 (Wilson, 1848; Redfearn & al., 1996).
- Timmia** Hedw., *nom. cons.* (Timmiaceae).
- *megapolitana* Hedw. (Zhang & Zhu, 1997; Zhu, 2003).
- Timmiella** (De Not.) Limpr. (Pottiaceae).
- *anomala* (Bruch & Schimp.) Limpr. (Hu & Wang, 1981; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001; Guo, 2003).
- *diminuta* (C. Müll.) P.-C. Chen. (Guo & Cao, 2001).
- Toloxis** Buck (Meteoriaceae).
- *semitorta* (C. Müll.) Buck [*Loxotis semitorta*, *Papillaria semitorta*] (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- Tortella** (Lindb.) Limpr. (Pottiaceae).
- *humilis* (Hedw.) Jenn. (Tian, 1997).
- *inflexa* (Bruch) Broth. [*Trichostomum inflexum*] (Wilson, 1848; Redfearn & al., 1996).
- *tortuosa* (Hedw.) Limpr. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Li & Crosby, 2001; Zhu, 2003).
- Tortula** Hedw., *nom. cons.* (Pottiaceae).
- *euryphylla* Zand. (Guo & Cao, 2001).
- *laureri* (Schultz) Lindb. [*Desmatodon laureri*] (Mitten, 1859; Hu & Wang, 1987; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001).
- *muralis* Hedw. (Li & Gao, 1983; Liu & al., 1989; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001; Gao & Lai, 2003; Zhu, 2003).
- *muralis* Hedw. var. *obcordata* (Schimp.) Limpr. (Li & Gao, 1983; Redfearn & al., 1996).
- Trachycladiella** (Fleisch.) Menzel (Meteoriaceae).
- *aurea* (Mitt.) Menzel [*Floribundaria aurea*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo, 2003).
- *sparsa* (Mitt.) Menzel [*Floribundaria sparsa*] (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997).
- Trachycystis** Lindb. (Mniaceae).
- *microphylla* (Dozy & Molk.) Lindb. [*Mnium microphyllum*] (Kabiersch, 1937; Li & Zang, 1979; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Koponen, 1994; Redfearn & al., 1996; Tian, 1997; Guo, 2003; Zhu, 2003).
- Trachyphyllum** Gepp. in Hiern (Entodontaceae).
- *inflexum* (Harv.) Gepp. in Hiern (Hu & Wang, 2005).
- Trachypodopsis** Fleisch. (Trachypodaceae).
- *auriculata* (Mitt.) Fleisch. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- *formosana* Nog. (Hu & Wang, 1987; Redfearn & al., 1996).
- *serrulata* (P. Beauv.) Fleisch. (Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996; Gao & Lai, 2003).
- *serrulata* (P. Beauv.) Fleisch. var. *crispatula* (Hook.) Zant. (Hong & Hu, 1984; Redfearn & al., 1996).
- Trachypus** Reinw. & Hornsch. (Trachypodaceae).
- *bicolor* Reinw. & Hornsch. [*T. bicolor* var. *pilifer*] (Potier de la Varde, 1937; Hu & Wang, 1981; Hong & Hu, 1984; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Zhu & al., 1993; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Gao & Lai, 2003; Guo, 2003; Zhu, 2003).
- *bicolor* Reinw. & Hornsch. var. *pilifer* Fleisch. = *T. bicolor* fide Zanten, 1959 (Potier de la Varde, 1937; Redfearn & al., 1996).
- *humilis* Lindb. (Potier de la Varde, 1937; Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Wang & Tao, 1992; Buck, 1993; Zhang & Lai, 1993; Redfearn & al., 1996; Tian, 1997; Gao & Lai, 2003; Guo, 2003; Zhu, 2003).
- *longifolius* Nog. (Zhu, 1990; Zhang & Lai, 1993; Redfearn & al., 1996).
- Trachythecium** Fleisch. (Hypnaceae).
- *verrucosum* (Jaeg.) Fleisch. (Tian, 1997).
- Trematodon** Michx. (Dicranaceae).
- *drepanellus* Besch. = *T. longicollis* (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- *longicollis* Michx. [*T. drepanellus*, *T. stricticalyx*] (Dixon, 1933; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Cao & Gao, 1988; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1994; Redfearn & al., 1996; Guo, 2003).
- *stricticalyx* Dix. = *T. longicollis* fide Cao & Gao, 1988 (Dixon, 1933; Redfearn & al., 1996).
- Trichosteleum** Mitt. (Sematophyllaceae).
- *boschii* (Dozy & Molk.) Jaeg. [*Rhaphidostichum boschii* ssp. *thelidictyon*] (Tian, 1997).
- *elegantissimum* Fleisch. ≡ *Radulina elegantissima* (Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- *mammosum* (C. Müll.) Jaeg. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996) {21}.

- **saproxylophilum** (C.Müll.) Tan [*Sematophyllum saproxylophilum*] (Hu & Wang, 1981; Wang & Tao, 1992; Buck, 1993; Redfearn & al., 1996; Guo, 2003).
- Trichostomum** Bruch, *nom. cons.* (Pottiaceae).
- **brachydontium** Bruch in F. A. Müll. (Hu & Wang, 1981; Li & Gao, 1983; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Li & Crosby, 2001).
- **crispulum** Bruch. in F. A. Müll. (Hu & Wang, 1981; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Li & Crosby, 2001; Guo, 2003).
- **hattorianum** Tan & Iwats. [*T. involutum*, *T. revolutum*] (Hong & Hu, 1984; Redfearn & al., 1996; Tian, 1997).
- **inflexum** Bruch in F. Müll. = *Tortella inflexa* (Wilson, 1848; Redfearn & al., 1996).
- **involutum** Broth., *hom. illeg.* = *T. hattorianum* fide Tan & Iwatsuki, 1993 (Hong & Hu, 1984; Redfearn & al., 1996; Tian, 1997).
- **planifolium** (Dix.) Zand. [*Weissia planifolia*] (Hong & Hu, 1984; Hu & Wang, 1987; Gao, 1996; Redfearn & al., 1996; Guo & Cao, 2001; Li & Crosby, 2001).
- **platyphyllum** (Ihs.) P.-C. Chen (Zhang & Lai, 1993; Gao, 1996; Li & Crosby, 2001; Gao & Lai, 2003).
- **revolutum** in R.-L. Hong & R.-L. Hu = *T. hattorianum* fide Tan & Iwatsuki, 1993 (Hong & Hu, 1984; Redfearn & al., 1996) {3}.
- **sinochenii** Redfearn & B. C. Tan (Li & Crosby, 2001).
- **tenuirostre** (Hook. & Tayl.) Lindb. [*Oxystegus cuspidatus*, *O. cylindricus*, *O. tenuirostris*] (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Zhang & Zhu, 1997; Guo & Cao, 2001; Li & Crosby, 2001; Guo, 2003; Zhu, 2003).
- Tuerckheimia** Broth. (Pottiaceae).
- **svihlae** (Bartr.) Zand. (Li & Crosby, 2001).
- Ulota** Mohr (Orthotrichaceae).
- **crispa** (Hedw.) Brid. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Redfearn & al., 1996).
- Venturiella** C. Müll. (Erpodiaceae).
- **sinensis** (Vent.) C. Müll. (Hu & Wang, 1981; Liu & al., 1989; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
- Vesicularia** (C. Müll.) C. Müll. (Hypnaceae).
- **ferriei** (Card. & Thér.) Broth. (Li & Gao, 1983; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Redfearn & al., 1996).
- **flaccida** (Sull. & Lesq.) Iwats. [*Plagiothecium delicatulum*] (Hu & Wang, 1987; Redfearn & al., 1996) {6}.
- **reticulata** (Dozy & Molk.) Broth. (Tian, 1997).
- Warburgiella** C. Müll. in Broth. (Sematophyllaceae).
- **cupressinoides** C. Müll. ex Broth. (Tian, 1997).
- Webera** Hedw. (Bryaceae).
- **scabridens** (Mitt.) Jaeg. = *Pohlia flexuosa* fide Kuo & Chiang, 1987 (Salmon, 1900; Redfearn & al., 1996).
- Weisiopsis** Broth. (Pottiaceae).
- **anomala** (Broth. & Par.) Broth. (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Li & Crosby, 2001).
- Weissia** Hedw. (Pottiaceae).
- **controversa** Hedw. [*W. viridula*] (Chen, 1941; Hu & Wang, 1981; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Guo & Cao, 2001; Li & Crosby, 2001; Guo, 2003; Zhu, 2003).
- **crispa** (Hedw.) Mitt. = *W. longifolia* (Chen, 1941; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997).
- **edentula** Mitt. [*Hymenostomum edentulum*, *W. semipallida*] (Li & Gao, 1983; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Guo & Cao, 2001; Li & Crosby, 2001; Wang & Fang, 2002; Gao & Lai, 2003).
- **exserta** (Broth.) P.-C. Chen (Hong & Hu, 1984; Hu & Wang, 1987; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Li & Crosby, 2001).
- **longidens** Card. (Hu & Wang, 1981; Hong & Hu, 1984; Hu & Wang, 1987; Wang & Tao, 1992; Zhang & Lai, 1993; Redfearn & al., 1996; Guo & Cao, 2001; Guo, 2003).
- **longifolia** Mitt. [*W. crispa*] (Chen, 1941; Li & Gao, 1983; Hong & Hu, 1984; Hu & Wang, 1987; Liu & al., 1989; Zhang & Lai, 1993; Gao, 1996; Redfearn & al., 1996; Tian, 1997; Li & Crosby, 2001).
- **planifolia** Dix. = *Trichostomum planifolium* (Hong & Hu, 1984; Hu & Wang, 1987; Gao, 1996; Redfearn & al., 1996).
- **semipallida** C. Müll. = *W. edentula* fide Kuo & Chiang, 1987 (Zhang & Lai, 1993; Gao, 1996; Wang & Fang, 2002).
- **viridula** Hedw. ex Brid., *hom. illeg.* = *W. controversa* (Chen, 1941; Hu & Wang, 1981; Wang & Tao, 1992; Redfearn & al., 1996).
- Wijkia** (Mitt.) Crum (Sematophyllaceae).
- **deflexifolia** (Ren. & Card.) Crum (Wu & Jia, 2004).
- **hornschurchii** (Dozy & Molk.) Crum (Wu & Jia, 2004).
- **juliformis** (Herz. & Dix. in Dix.) Crum (Dixon, 1933; Chen & al., 1978; Zhang & Lai, 1993; Redfearn & al., 1996).
- **surcularis** (Mitt.) Crum (Wu & Jia, 2004).
- **tanytricha** (Mont.) Crum (Zhang & Lai, 1993; Tian, 1997).

## ANNOTATIONS

(1) The following 11 new records were based on the list of bryophytes of Baishanzu Nature Reserve taken from the website of Nature Reserve of China (<http://www.nre.cn/htm/09/zjbsz/bsz-zlgx/2004-04-22-12319.htm>):

*Abietinella abietina* (Hedw.) Fleisch.

*Brachythecium nitidulum* (Broth.) Nog.

*Campylopus durelli* Broth. in Par.

*Dicranodontium asperulum* (Mitt.) Broth.

*Dicranum subporodictyon* (Broth.) C. Gao & T. Gao

*Grimmia pulvinata* (Hedw.) Sm.

*Leucobryum aduncum* Dozy & Molk.

*Platydictya jungermannioides* (Brid.) Crum

*Rhynchostegiella menadensis* (Sande Lac.)

Bartr.

*Sphagnum magellanicum* Brid.

*Stereodontopsis pseudorevoluta* (Reim.) Ando

Because we can't find more details about the species from the list, we are doubtful about the report of these species from the province and temporarily excluded them from our present list. For example, the species of *Dicranum subporodictyon* (Broth.) C. Gao & T. Gao is endemic to southwest of China. These records need to be confirmed for the province in future.

(2) There is no name of *Abietinella arbuscula* reported in the literature. It might be *A. abietina*.

(3) Redfearn & al. (1996) had questioned the names of *Barbula elongata*, *Dicranum crispula*, *Racomitrium polyphyloides* in Hu & Wang (1981) and *Trichostomum revolutum* in Hong & Hu (1984) as mistaken orthographies for *Barbella elongata*, *Dicranoweisia crispula*, *Ptychomitrium polyphyloides* and *Trichostomum involutum*, respectively. We judge that *Dicranum subcylindrothecium* in Zhang & Lai (1993) is also an orthographical error for *Dicranoloma subcylindrothecium*.

(4) Redfearn & al. (1996) suggested that the record of *Brachymenium radiculosum* in the province needs confirmation, because the species appears to be restricted to Central and South Americas.

(5) Redfearn & al. (1996) missed the records of the following 3 species: *Bryum alpinum*, *Isopterygium bancannum* and *Loeskeobryum cavifolium* [syn. *Hylocomium brevirostre* var. *cavifolium*], although these species (or their taxo-

nomic synonyms) were reported from Zhejiang by Hu & Wang (1981), Hong & Hu (1984), Hu & Wang (1987).

(6) The 4 taxa, namely, *Calypothecium wightii*, *Campylium hispidulum* var. *sommerfeltii*, *Thamnobryum alleghaniense* [syn. *Thamnium biondii*] and *Vesicularia flaccida* [syn. *Plagiothecium delicatulum*], should be excluded from Zhejiang, because they were not reported from this province by Paris (1907), Hu & Wang (1981), Hong & Hu (1984), and Hu & Wang (1987). Their records in Redfearn & al. (1996) are mistakes.

(7) Frahm (1992a) indicated that *Campylopus setifolius* was a species of *Dicranodontium*.

(8) Fang & Koponen (2001) doubted the record of *Claopodium crispifolium* from Zhejiang because it occurs mainly in North America and is uncommon in Asia.

(9) The species of *Cyathophorella* in this checklist are based on Wu & Crosby (2002). Kruijer (2002) has done some revisions as follows: *Cyathophorella hookeriana* = *Cyathophorum hookerianum*, *Cyathophorella japonica* = *Cyathophorum adiantum*, *Cyathophorella kyusyuensis* = *Cyathophorum hookerianum*, *Cyathophorella tonkinensis* = *Cyathophorum adiantum*.

(10) Fang & Koponen (2001) doubted that the Chinese records of *Thuidium contortulum* ( $\equiv$  *Cyrto-hypnum contortulum*) may represent another species. Consequently, the specimens of this species record collected from Mt. Jin-hua in Zhejiang deserve further study.

(11) *Cyrto-hypnum minutulum* [syn. *Thuidium minutulum*] is primarily a European and North American species (Crum & Anderson, 1981). Wu & Crosby (2002) pointed out that the previous report of this species in China (Redfearn & al., 1996) appears to be based on incorrectly identified specimens. They have excluded it from China.

(12) After re-examination of the specimens reported from Zhejiang Province, Wu & Jia (2004) suggested that the record of *Microctenidium heterophyllum* was based on misidentification.

(13) Koponen (1981) doubted that *Plagiomnium affine* [syn. *Mnium affine*], *Rhizomnium punctatum* [syn. *Mnium punctatum*] and *Plagiomnium undulatum* [syn. *Mnium undulatum*] actually extended their range to China.

(14) Koponen (1994) questioned the occur-

rence of *Plagiomnium cuspidatum* [syn. *Mnium cuspidatum*] and *P. vesicatum* [syn. *Mnium vesicatum*, *P. rostratum* ssp. *vesicatum*] in China.

(15) Redfearn & al. (1996) suggested that the report of *Porotrichum plagiorhynchum* needs confirmation. The species is currently known only from the New World.

(16) *Pseudochorisodontium hokinense* [syn. *Dicranum hokinense*] is endemic to southwest of China. The identification of the Zhejiang specimen of this species might be erroneous.

(17) Bednarek-Ochyra (2004) revealed that the records of *Racomitrium aciculare* (Hedw.) Brid. in China actually represent *R. japonicum* Dozy & Molk. based on re-examination of the voucher collections. The species of *R. aciculare* in Zhejiang Province needs to be studied.

(18) Wu & Jia (2004) stated that the records of *Radulina elegantissima* (Fleisch.) Buck & Tan [syn. *Trichosteleum elegantissimum*] reported by Hu & Wang (1981) and Wang & Tao (1992) from Zhejiang Province represents another species of *Trichosteleum*. *Radulina elegantissima* has not been found in China yet.

(19) In recent years, there are three different papers dealing with Chinese species of *Thuidium* (Fang & Koponen, 2001; Touw, 2001a, b; Wu & Crosby, 2002). The nomenclature in these revisions is only partly in agreement. There are differences in the treatment at both generic and specific levels (see table 1 in Koponen & Touw, 2003), which are rather confusing. In the present checklist, we followed Wu & Crosby (2002) in terms of nomenclature.

(20) Fang & Koponen (2001) proposed that those Chinese specimens named *Thuidium recognitum* should be confirmed. They did not see any correctly identified specimens. Wu & Crosby (2002) had the same opinion on this species.

(21) Those records of *Trichosteleum mammosum* from Chinese provinces are erroneous. Wu & Jia (2004) have excluded it from China.

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## APPENDIX 1

A synopsis of the moss flora of Zhejiang Province of China. The number inside the parenthesis indicates the number of taxa accepted.

- |                              |                                 |                             |
|------------------------------|---------------------------------|-----------------------------|
| <b>Amblystegiaceae</b>       | <i>Rhodobryum</i> (2)           | <i>Erythrodonium</i> (1)    |
| <i>Amblystegium</i> (1)      | <i>Rosulabryum</i> (2)          | <i>Mesonodon</i> (1)        |
| <i>Calliergon</i> (1)        | <b>Calymperaceae</b>            | <i>Orthothecium</i> (1)     |
| <i>Calliergonella</i> (1)    | <i>Syrrophodon</i> (1)          | <i>Sakuraia</i> (1)         |
| <i>Campyllum</i> (4)         | <b>Climaciaceae</b>             | <i>Trachyphyllum</i> (1)    |
| <i>Drepanocladus</i> (2)     | <i>Climacium</i> (2)            | <b>Erpodiaceae</b>          |
| <i>Hygroamblystegium</i> (1) | <b>Cryphaeaceae</b>             | <i>Aulacopilum</i> (1)      |
| <i>Hygrohypnum</i> (5)       | <i>Forsstroemia</i> (2)         | <i>Venturiella</i> (1)      |
| <i>Leptodictyum</i> (1)      | <i>Pilotrichopsis</i> (2)       | <b>Fabroniaceae</b>         |
| <b>Andreaeaceae</b>          | <i>Sphaerotheciella</i> (1)     | <i>Anacamptodon</i> (2)     |
| <i>Andreaea</i> (2)          | <b>Dicranaceae</b>              | <i>Fabronia</i> (2)         |
| <b>Anomodontaceae</b>        | <i>Aongstroemiopsis</i> (1)     | <i>Juratzkaea</i> (1)       |
| <i>Anomodon</i> (6)          | <i>Atractylorcarpus</i> (1)     | <i>Schwetschkea</i> (2)     |
| <i>Haplohymenium</i> (5)     | <i>Brothera</i> (1)             | <i>Schwetschkeopsis</i> (1) |
| <i>Herpetineuron</i> (1)     | <i>Bruchia</i> (1)              | <b>Fissidentaceae</b>       |
| <b>Archidiaceae</b>          | <i>Campylopodium</i> (1)        | <i>Fissidens</i> (22)       |
| <i>Archidium</i> (1)         | <i>Campylopus</i> (15)          | <b>Funariaceae</b>          |
| <b>Bartramiaceae</b>         | <i>Dicranella</i> (7)           | <i>Funaria</i> (2)          |
| <i>Bartramia</i> (2)         | <i>Dicranodontium</i> (4)       | <i>Physcomitrium</i> (5)    |
| <i>Breutelia</i> (1)         | <i>Dicranoloma</i> (4)          | <b>Grimmiaceae</b>          |
| <i>Philonotis</i> (9)        | <i>Dicranoweisia</i> (1)        | <i>Grimmia</i> (7)          |
| <b>Brachytheciaceae</b>      | <i>Dicranum</i> (14)            | <i>Racomitrium</i> (10)     |
| <i>Brachythecium</i> (30)    | <i>Holomitrium</i> (2)          | <i>Schistidium</i> (3)      |
| <i>Bryhnia</i> (3)           | <i>Kiaeria</i> (1)              | <b>Hedwigiaceae</b>         |
| <i>Camptothecium</i> (2)     | <i>Oncophorus</i> (2)           | <i>Hedwigia</i> (2)         |
| <i>Cirriphyllum</i> (2)      | <i>Paraleucobryum</i> (2)       | <b>Hookeriaceae</b>         |
| <i>Eurhynchium</i> (10)      | <i>Symblepharis</i> (2)         | <i>Calyptrochaeta</i> (2)   |
| <i>Homalothecium</i> (2)     | <i>Pseudochorisodontium</i> (2) | <i>Distichophyllum</i> (4)  |
| <i>Kindbergia</i> (2)        | <i>Trematodon</i> (1)           | <i>Hookeria</i> (1)         |
| <i>Myuroclada</i> (1)        | <b>Diphysciaceae</b>            | <b>Hylocomiaceae</b>        |
| <i>Palamocladium</i> (2)     | <i>Diphyscium</i> (1)           | <i>Hylocomium</i> (1)       |
| <i>Rhynchostegiella</i> (5)  | <b>Ditrichaceae</b>             | <i>Loeskeobryum</i> (2)     |
| <i>Rhynchostegium</i> (8)    | <i>Ceratodon</i> (1)            | <i>Macrothamnium</i> (1)    |
| <b>Bryaceae</b>              | <i>Ditrichopsis</i> (1)         | <i>Pleurozium</i> (1)       |
| <i>Anomobryum</i> (2)        | <i>Ditrichum</i> (5)            | <i>Rhytidiadelphus</i> (2)  |
| <i>Brachymenium</i> (3)      | <i>Garckea</i> (1)              | <b>Hypnaceae</b>            |
| <i>Bryum</i> (16)            | <i>Pleuridium</i> (1)           | <i>Breidleria</i> (2)       |
| <i>Epipterygium</i> (1)      | <i>Saelania</i> (1)             | <i>Callicladium</i> (1)     |
| <i>Plagiobryum</i> (1)       | <b>Entodontaceae</b>            | <i>Ctenidium</i> (7)        |
| <i>Pohlia</i> (8)            | <i>Entodon</i> (20)             | <i>Ectropothecium</i> (3)   |

- Eurohypnum* (1)  
*Gollania* (3)  
*Herzogiella* (2)  
*Homomallium* (3)  
*Hypnum* (13)  
*Isopterygium* (6)  
*Pseudostereodon* (1)  
*Pylaisia* (4)  
*Taxiphyllum* (7)  
*Trachythecium* (1)  
*Vesicularia* (2)  
**Hypopterygiaceae**  
*Cyathophorella* (3)  
*Dendrocycathophorum* (1)  
*Hypopterygium* (4)  
**Lembophyllaceae**  
*Dolichomitra* (1)  
*Dolichomitriopsis* (1)  
*Isothecium* (1)  
*Neobarbella* (2)  
**Leucobryaceae**  
*Leucobryum* (7)  
**Leucodontaceae**  
*Felipponea* (1)  
*Leucodon* (4)  
**Leskeaceae**  
*Bryonoguchia* (1)  
*Lescuraea* (1)  
*Leskea* (1)  
*Leskeella* (1)  
*Lindbergia* (1)  
*Okamuraea* (2)  
*Pseudoleskeella* (2)  
*Pseudoleskeopsis* (2)  
*Regmatodon* (1)  
**Meteoriaceae**  
*Aerobryidium* (3)  
*Aerobryopsis* (4)  
*Aerobryum* (1)  
*Barbella* (4)  
*Chrysocladium* (1)  
*Dicliadiella* (1)  
*Floribundaria* (2)  
*Meteoriella* (1)  
*Meteoriopsis* (2)  
*Meteorium* (11)  
*Neodiciadiella* (1)  
*Papillaria* (2)  
*Pseudobarbella* (6)
- Toloxis* (1)  
*Trachycladiella* (2)  
**Mniaceae**  
*Mnium* (5)  
*Orthomnion* (3)  
*Plagiomnium* (13)  
*Rhizomnium* (3)  
*Trachycystis* (1)  
**Neckeraceae**  
*Homalia* (2)  
*Homaliadelphus* (2)  
*Homaliodendron* (5)  
*Neckera* (8)  
*Neckeropsis* (3)  
*Porotrichum* (1)  
*Thamnobryum* (2)  
**Orthotrichaceae**  
*Amphidium* (1)  
*Drummondia* (2)  
*Macrocoma* (1)  
*Macromitrium* (10)  
*Orthotrichum* (3)  
*Schlotheimia* (4)  
*Ulota* (1)  
**Plagiotheciaceae**  
*Plagiothecium* (14)  
*Pseudotaxiphyllum* (1)  
**Polytrichaceae**  
*Atrichum* (5)  
*Pogonatum* (12)  
*Polytrichastrum* (4)  
*Polytrichum* (2)  
**Pottiaceae**  
*Anoetangium* (3)  
*Barbula* (4)  
*Bryoerythrophyllum* (2)  
*Didymodon* (9)  
*Gymnostomum* (2)  
*Hymenostylium* (2)  
*Hyophila* (6)  
*Luisierella* (1)  
*Molendoa* (3)  
*Pottia* (1)  
*Pseudosymblepharis* (2)  
*Scopelophila* (2)  
*Timmiella* (2)  
*Tortella* (3)  
*Tortula* (4)  
*Trichostomum* (7)
- Tuerckheimia* (1)  
*Weisiopsis* (1)  
*Weissia* (5)  
**Pterobryaceae**  
*Calypothecium* (3)  
*Oediciadium* (1)  
*Pterobryon* (2)  
**Ptychomitriaceae**  
*Glyphomitrium* (1)  
*Ptychomitrium* (6)  
**Racopilaceae**  
*Racopilum* (1)  
**Rhizogoniaceae**  
*Pyrrhobryum* (3)  
**Sematophyllaceae**  
*Acroporium* (2)  
*Brotherella* (7)  
*Chionostomum* (1)  
*Gammiella* (1)  
*Giraldiella* (1)  
*Isocliadiella* (1)  
*Palisadula* (1)  
*Pylaisiadelphus* (2)  
*Schraderella* (1)  
*Sematophyllum* (6)  
*Struckia* (1)  
*Taxithelium* (3)  
*Trichosteleum* (2)  
*Warburgiella* (1)  
*Wijkia* (5)  
**Sphagnaceae**  
*Sphagnum* (8)  
**Theliaceae**  
*Fauriella* (2)  
**Thuidiaceae**  
*Actinothuidium* (1)  
*Claopodium* (5)  
*Cyrtohypnum* (4)  
*Haplocladium* (2)  
*Miyabea* (2)  
*Rauiella* (1)  
*Thuidium* (10)  
**Timmiaceae**  
*Timmia* (1)  
**Trachypodaceae**  
*Duthiella* (4)  
*Pseudospiridentopsis* (1)  
*Trachypodopsis* (4)  
*Trachypus* (3)